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Service Manual

ORDER NO.
ARP3486

FLAT PANEL TV

PRO-151FD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-151FD	KUCXC	AC 120 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PDP-6020FD	ARP3478	EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc.

For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.

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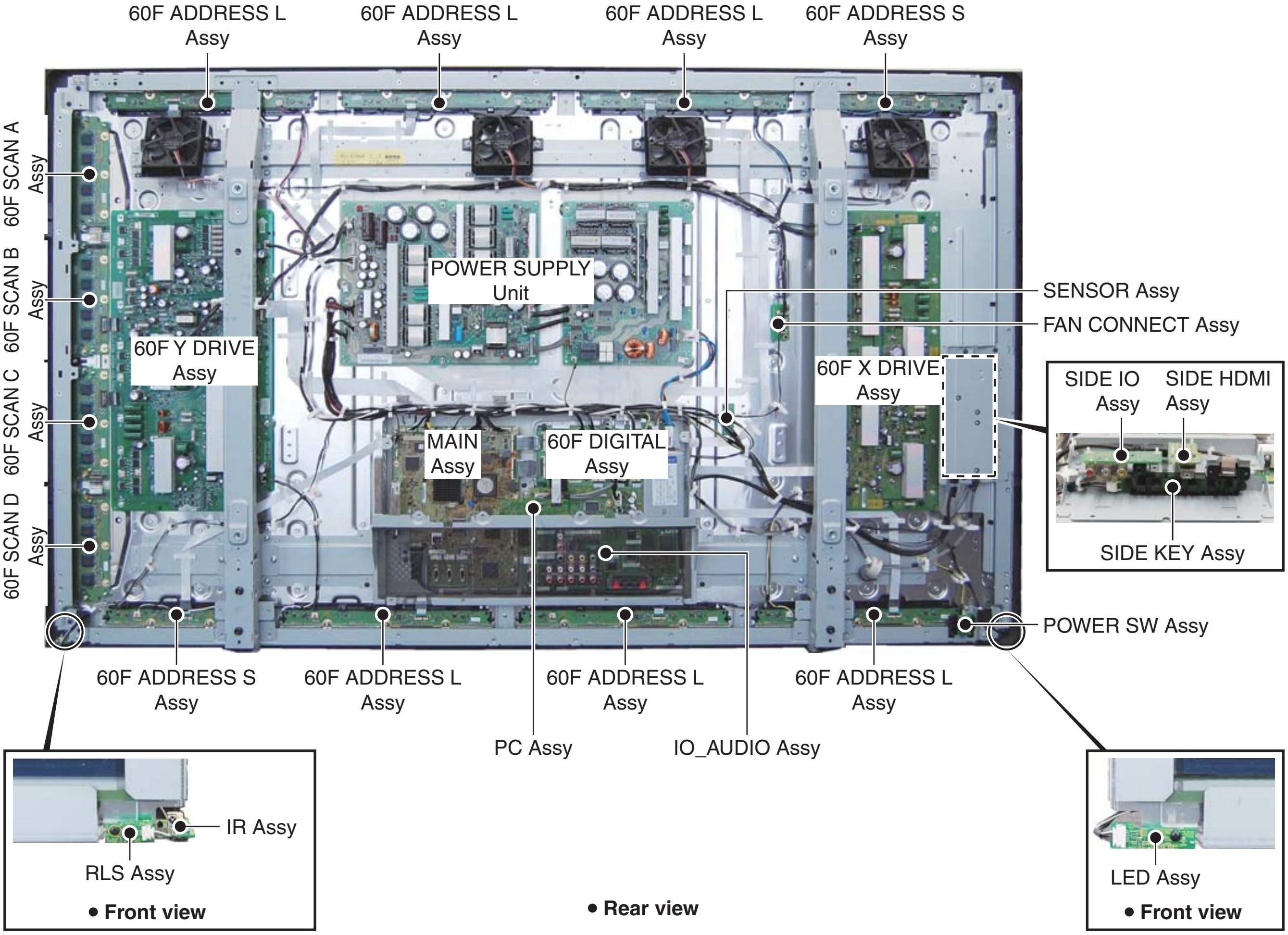
1. BASIC ITEMS FOR SERVICE

1.1 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.


60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS S Assy
60F SCAN A Assy
60F SCAN B Assy
60F SCAN C Assy
60F SCAN D Assy
POWER SUPPLY Unit
60F Y DRIVE Assy
SENSOR Assy
FAN CONNECT Assy
60F X DRIVE Assy
SIDE IO Assy
SIDE HDMI Assy
MAIN Assy
60F DIGITAL Assy
SIDE KEY Assy
POWER SW Assy
60F ADDRESS S Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
PC Assy
IO_AUDIO Assy
IR Assy
RLS Assy
● Front view
● Rear view
LED Assy
● Front view

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

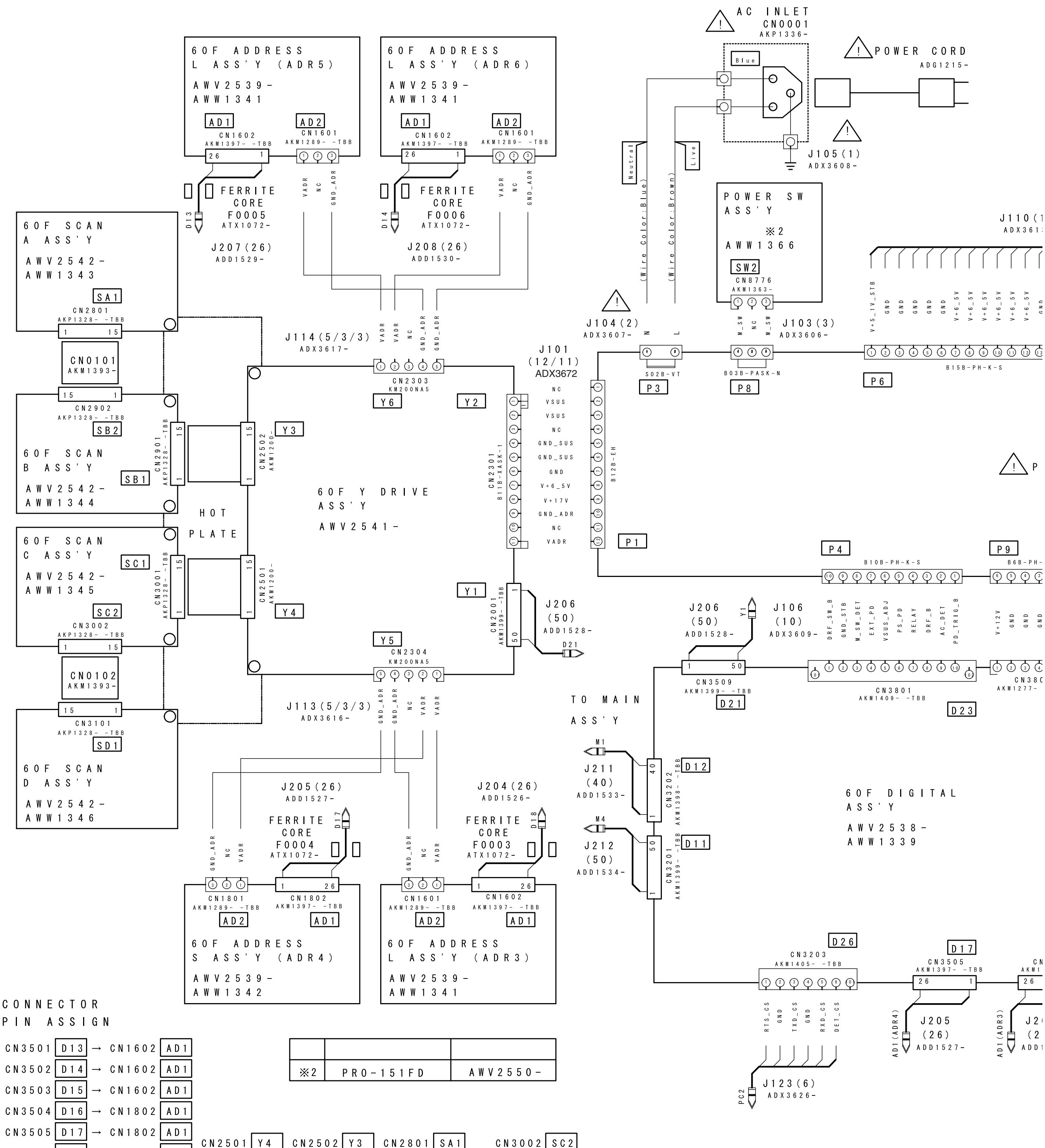
Mark	No.	Description	Part No.
NSP		60F ADDRESS L ASSY	AWW1341
NSP		60F ADDRESS S ASSY	AWW1342
NSP		60F SCAN A ASSY	AWW1343
		└ IC2801 - IC2804	AN16184A
NSP		60F SCAN B ASSY	AWW1344
		└ IC2901 - IC2904	AN16184A
NSP		60F SCAN C ASSY	AWW1345
		└ IC3001 - IC3004	AN16184A
NSP		60F SCAN D ASSY	AWW1346
		└ IC3101 - IC3104	AN16184A
		SENSOR ASSY	AWW1340
		60F DIGITAL Assy	AWW1339
		60F X DRIVE ASSY	AWV2540
		60F Y DRIVE ASSY	AWV2541

Mark	No.	Description	Part No.
		MAIN ASSY	AWW1371
		SIDE HDMI ASSY	AWW1372
		∗ IO_AUDIO ASSY (US E)	AWW1353
		∗ SIDE IO ASSY (US E)	AWW1357
		∗ PC ASSY (US E)	AWW1360
		SIDE KEY ASSY	AWW1361
		LED ASSY	AWW1362
		IR ASSY	AWW1363
		FAN CONNECT ASSY	AWW1364
		RLS ASSY	AWW1365
		POWER SW ASSY	AWW1366
⚠		POWER SUPPLY UNIT	AXY1201
		∗ PDP SERVICE ASSY 609FE	AWU1347

∗ These Assys are for ELITE model use.

2. BLOCK DIAGRAM

2.1 OVERALL WIRING DIAGRAM (1/2)


A
B
C
D
E
F
AC INLET
CN0001
AKP1336-
Blue
POWER CORD
ADG1215-
Neutral
Live
(Wire Color:Blue)
(Wire Color:Brown)
J105(1)
ADX3608-
POWER SW
ASS'Y
※2
AWW1366
SW2
CN8776
AKM1363-
J104(2)
ADX3607-
N
L
M_SW
NC
M_SW
J103(3)
ADX3606-
S02B-VT
P3
B03B-PASK-N
P8
J110(1
ADX361
V+5_1V_STB
GND
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
B15B-PH-K-S
P6
P
60F ADDRESS
L ASS'Y (ADR5)
AWV2539-
AWW1341
AD1
AD2
CN1602
AKM1397- -TBB
CN1601
AKM1289- -TBB
26
1
VADR
NC
GND_ADR
FERRITE
CORE
F0005
ATX1072-
D13
J207(26)
ADD1529-
60F ADDRESS
L ASS'Y (ADR6)
AWV2539-
AWW1341
FERRITE
CORE
F0006
ATX1072-
D14
J208(26)
ADD1530-
60F SCAN
A ASS'Y
AWV2542-
AWW1343
SA1
CN2801
AKP1328- -TBB
1
15
CN0101
AKM1393-
J114(5/3/3)
ADX3617-
VADR
VADR
NC
GND_ADR
GND_ADR
CN2303
KM200NA5
Y6
Y2
J101
(12/11)
ADX3672
NC
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+17V
GND_ADR
NC
VADR
CN2301
B11B-XASK-1
B12B-EH
P1
CN2902
AKP1328- -TBB
SB2
60F SCAN
B ASS'Y
SB1
AWV2542-
AWW1344
CN2901
AKP1328- -TBB
CN2502
AKM1200-
Y3
HOT
PLATE
60F Y DRIVE
ASS'Y
AWV2541-
60F SCAN
C ASS'Y
SC1
AWV2542-
AWW1345
CN3001
AKP1328- -TBB
CN2501
AKM1200-
Y4
SC2
CN3002
AKP1328- -TBB
CN0102
AKM1393-
CN3101
AKP1328- -TBB
SD1
60F SCAN
D ASS'Y
AWV2542-
AWW1346
Y1
CN2001
AKM1399- -TBB
1
50
J206
(50)
ADD1528-
D21
Y5
CN2304
KM200NA5
J113(5/3/3)
ADX3616-
GND_ADR
GND_ADR
NC
VADR
VADR
P4
B10B-PH-K-S
P9
B6B-PH-
J206
(50)
ADD1528-
J106
(10)
ADX3609-
DRF_SW_B
GND_STB
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRIG_B
V+12V
GND
GND
CN3509
AKM1399- -TBB
D21
CN3801
AKM1409- -TBB
D23
CN380
AKM1277-
TO MAIN
ASS'Y
M1
J211
(40)
ADD1533-
CN3202
AKM1398- -TBB
D12
M4
J212
(50)
ADD1534-
CN3201
AKM1399- -TBB
D11
60F DIGITAL
ASS'Y
AWV2538-
AWW1339
J205(26)
ADD1527-
J204(26)
ADD1526-
FERRITE
CORE
F0004
ATX1072-
D17
FERRITE
CORE
F0003
ATX1072-
D18
GND_ADR
NC
VADR
CN1801
AKM1289- -TBB
CN1802
AKM1397- -TBB
AD2
AD1
60F ADDRESS
S ASS'Y (ADR4)
AWV2539-
AWW1342
CN1601
AKM1289- -TBB
CN1602
AKM1397- -TBB
60F ADDRESS
L ASS'Y (ADR3)
AWV2539-
AWW1341
D26
CN3203
AKM1405- -TBB
RTS_CS
GND
TXD_CS
GND
RXD_CS
DET_CS
D17
CN3505
AKM1397- -TBB
AD1(ADR4)
J205
(26)
ADD1527-
AD1(ADR3)
J123(6)
ADX3626-
PC2

CONNECTOR
PIN ASSIGN

CN3501 D13 → CN1602 AD1
CN3502 D14 → CN1602 AD1
CN3503 D15 → CN1602 AD1
CN3504 D16 → CN1802 AD1
CN3505 D17 → CN1802 AD1
CN3506 D18 → CN1602 AD1
CN3507 D19 → CN1602 AD1
CN3508 D20 → CN1602 AD1

1→26. V+10V
2→25. V+10V
3→24. GND
4→23. GND
5→22. AN
6→21. AP
7→20. GND
8→19. BN
9→18. BP
10→17. GND
11→16. CN
12→15. CP
13→14. GND
14→13. CLKN
15→12. CLKP
16→11. GND
17→10. DN
18→ 9. DP
19→ 8. GND
20→ 7. GND
21→ 6. V+3_3V
22→ 5. V+3_3V
23→ 4. V+3_3V
24→ 3. GND
25→ 2. LS1
26→ 1. ADR_PD

※2	PRO-151FD	AWV2550-

CN2501 Y4
↓
CN3001 SC1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. SI
8. GNDH_DIG
9. CLK_L
10. LE
11. OC1
12. OC2
13. CLR
14. GNDH_RL
15. IC5V

CN2502 Y3
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. CLK_H
8. GNDH_DIG
9. LE
10. OC1
11. OC2
12. CLR
13. SI
14. GNDH_RH
15. IC5V

CN2801 SA1
↓
CN2902 SB2

1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_A
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLK_H
10→ 6. LE
11→ 5. OC1
12→ 4. OC2_H
13→ 3. CLR
14→ 2. GNDH_RH
15→ 1. IC5V

CN3002 SC2
↓
CN3101 SD1

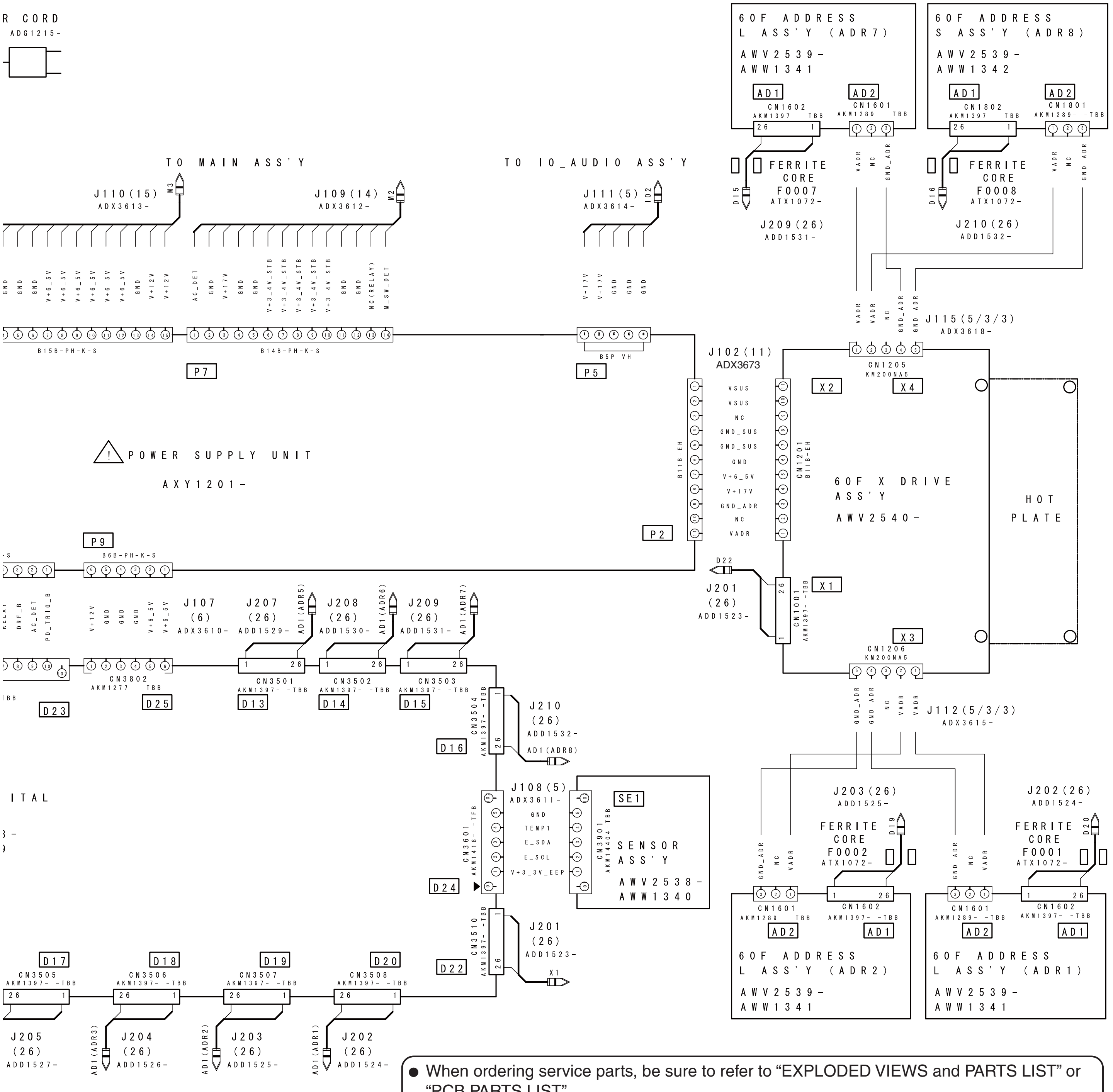
1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_D
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLR
10→ 6. OC2_L
11→ 5. OC1
12→ 4. LE
13→ 3. CLK_L
14→ 2. GNDH_RL
15→ 1. IC5V

CN3509 D21 → CN2001 Y1

1→50. YCN_PD
2→49. VYPRST_ADJ
3→48. SCAN_PD
4→47. GND
5→46. YDD_PD
6→45. VOFS_ADJ
7→44. YSUS_PD
8→43. GND
9→42. YRSV1
10→41. YRSV2
11→40. GND
12→39. YKNOFS4
13→38. YKNOFS3
14→37. YKNOFS2
15→36. YKNOFS1
16→35. GND
17→34. YSOFT-G
18→33. SUS_MUTE
19→32. YSNOFS
20→31. GND
21→30. YRST-D
22→29. YSUS_LMSK
23→28. YSUS_HMSK
24→27. GND
25→26. YSUS_D
26→25. YPR-U
27→24. YSUS_G
28→23. GND
29→22. YSUS_U
30→21. YRSV3
31→20. YSUS_B
32→19. ESW
33→18. GND
34→17. CLK_L
35→16. YRSV4
36→15. SI
37→14. CLK_H
38→13. GND
39→12. LE
40→11. OC1
41→10. OC2
42→ 9. CLR
43→ 8. GND
44→ 7. VKNOFS4_ADJ
45→ 6. VKNOFS3_ADJ
46→ 5. VKNOFS1_2_ADJ
47→ 4. GND
48→ 3. SCN5V_PD
49→ 2. YDRV_PD(GND)
50→ 1. PSW2

CN3201

1→50
2→49
3→48
4→47
5→46
6→45
7→44
8→43
9→42
10→41
11→40
12→39
13→38
14→37
15→36
16→35
17→34


A
B
C
D
E
F
R CORD
ADG1215-
60F ADDRESS L ASS'Y (ADR7)
AWV2539-
AWW1341
AD1
AD2
CN1602
AKM1397- -TBB
CN1601
AKM1289- -TBB
60F ADDRESS S ASS'Y (ADR8)
AWV2539-
AWW1342
CN1802
CN1801
FERRITE CORE F0007
ATX1072-
FERRITE CORE F0008
ATX1072-
D15
D16
J209(26)
ADD1531-
J210(26)
ADD1532-
VADR
NC
GND_ADR
TO MAIN ASS'Y
TO IO_AUDIO ASS'Y
J110(15)
ADX3613-
M3
J109(14)
ADX3612-
M2
J111(5)
ADX3614-
IO2
GND
V+6_5V
V+12V
AC_DET
V+17V
V+3_4V_STB
NC(RELAY)
M_SW_DET
B15B-PH-K-S
B14B-PH-K-S
B5P-VH
P7
P5
J115(5/3/3)
ADX3618-
J102(11)
ADX3673
CN1205
KM200NA5
X2
X4
VSUS
GND_SUS
GND_ADR
VADR
B11B-EH
CN1201
POWER SUPPLY UNIT
AXY1201-
60F X DRIVE ASS'Y
AWV2540-
HOT PLATE
P2
P9
B6B-PH-K-S
D22
J201 (26)
ADD1523-
CN1001
AKM1397- -TBB
X1
X3
CN1206
KM200NA5
J112(5/3/3)
ADX3615-
DRF_B
PD_TRIG_B
J107 (6)
ADX3610-
J207 (26)
ADD1529-
AD1(ADR5)
J208 (26)
ADD1530-
AD1(ADR6)
J209 (26)
ADD1531-
AD1(ADR7)
CN3802
AKM1277- -TBB
CN3501
CN3502
CN3503
AKM1397- -TBB
D23
D25
D13
D14
D15
CN3504
J210 (26)
ADD1532-
AD1(ADR8)
D16
J108(5)
ADX3611-
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3601
AKM1418- -TFB
CN3901
AKM1404-TBB
SE1
SENSOR ASS'Y
AWV2538-
AWW1340
D24
ITAL
CN3510
J201 (26)
ADD1523-
X1
D22
J203(26)
ADD1525-
FERRITE CORE F0002
ATX1072-
D19
J202(26)
ADD1524-
FERRITE CORE F0001
ATX1072-
D20
60F ADDRESS L ASS'Y (ADR2)
AWV2539-
AWW1341
60F ADDRESS L ASS'Y (ADR1)
AWV2539-
AWW1341
D17
D18
D19
D20
CN3505
CN3506
CN3507
CN3508
J205 (26)
ADD1527-
AD1(ADR3)
J204 (26)
ADD1526-
AD1(ADR2)
J203 (26)
ADD1525-
AD1(ADR1)
J202 (26)
ADD1524-

- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

4
H
FS4_ADJ
FS3_ADJ
FS1_2_ADJ
V_PD
_PD(GND)

CN3201 D11 → CN4101 M4

1→50.V+3_4V_ACT2
2→49.NC
3→48.GND
4→47.MULTI_OE
5→46.RELAY2
6→45.REQ_MD
7→44.RXD_MD
8→43.TXD_MD
9→42.GND
10→41.THEATER
11→40.VD
12→39.HD
13→38.DE
14→37.GND
15→36.CLK
16→35.GND
17→34.R9_EVN
18→33.R8_EVN
19→32.R7_EVN
20→31.R6_EVN
21→30.R5_EVN
22→29.R4_EVN
23→28.R3_EVN
24→27.R2_EVN
25→26.R1_EVN
26→25.R0_EVN
27→24.GND
28→23.G9_EVN
29→22.G8_EVN
30→21.G7_EVN
31→20.G6_EVN
32→19.G5_EVN
33→18.G4_EVN
34→17.G3_EVN
35→16.G2_EVN
36→15.G1_EVN
37→14.G0_EVN
38→13.GND
39→12.B9_EVN
40→11.B8_EVN
41→10.B7_EVN
42→ 9.B6_EVN
43→ 8.B5_EVN
44→ 7.B4_EVN
45→ 6.B3_EVN
46→ 5.B2_EVN
47→ 4.B1_EVN
48→ 3.B0_EVN
49→ 2.GND
50→ 1.MODE_A

CN3202 D12 → CN4105 M1

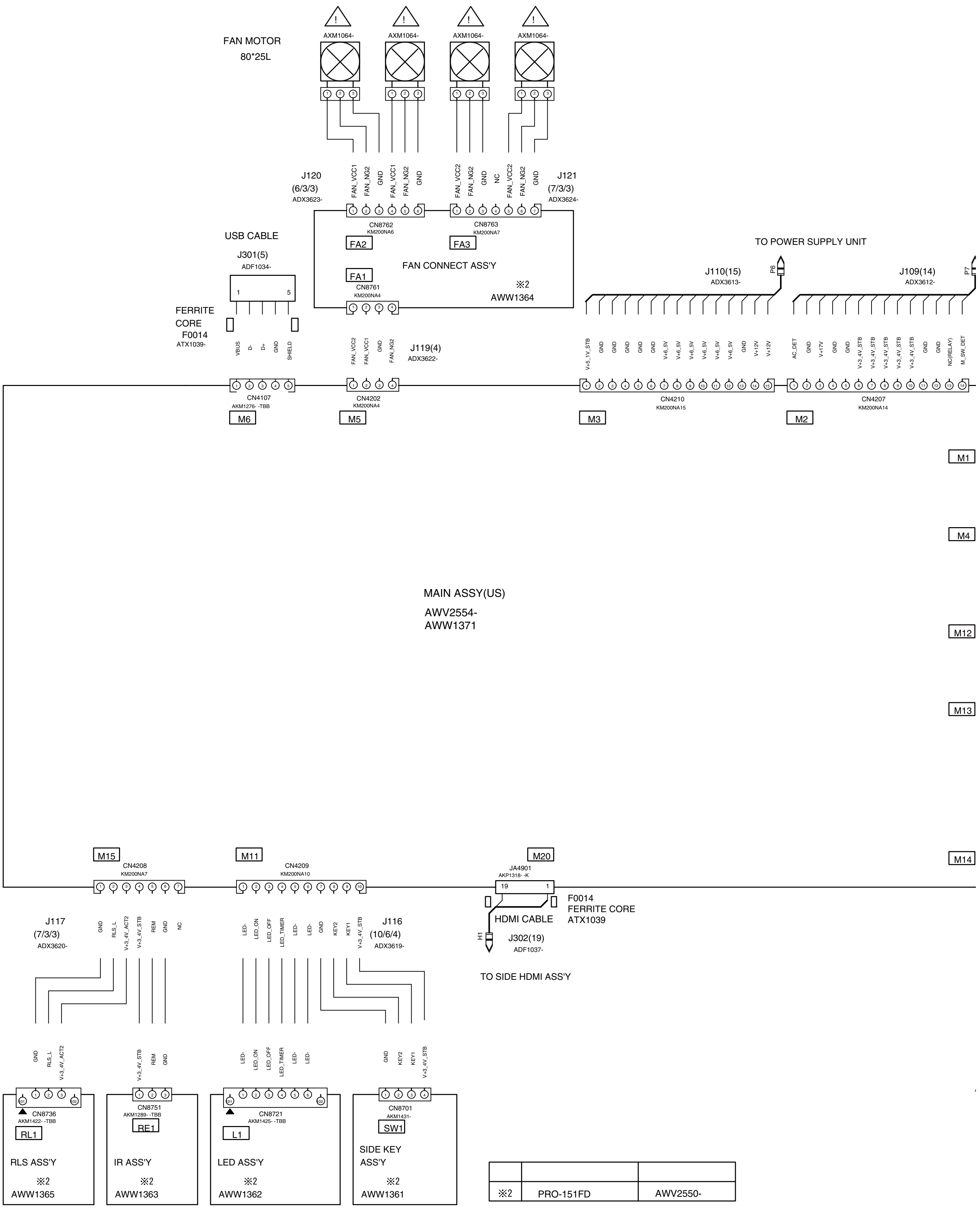
1→40.MODE_B
2→39.SQ_SEL
3→38.GND
4→37.GND
5→36.R9_ODD
6→35.R8_ODD
7→34.R7_ODD
8→33.R6_ODD
9→32.R5_ODD
10→31.R4_ODD
11→30.R3_ODD
12→29.R2_ODD
13→28.R1_ODD
14→27.R0_ODD
15→26.GND
16→25.G9_ODD
17→24.G8_ODD
18→23.G7_ODD
19→22.G6_ODD
20→21.G5_ODD
21→20.G4_ODD
22→19.G3_ODD
23→18.G2_ODD
24→17.G1_ODD
25→16.G0_ODD
26→15.GND
27→14.B9_ODD
28→13.B8_ODD
29→12.B7_ODD
30→11.B6_ODD
31→10.B5_ODD
32→ 9.B4_ODD
33→ 8.B3_ODD
34→ 7.B2_ODD
35→ 6.B1_ODD
36→ 5.B0_ODD
37→ 4.GND
38→ 3.GND
39→ 2.GND
40→ 1.MODE_C

CN3510 D22 → CN1001 X1

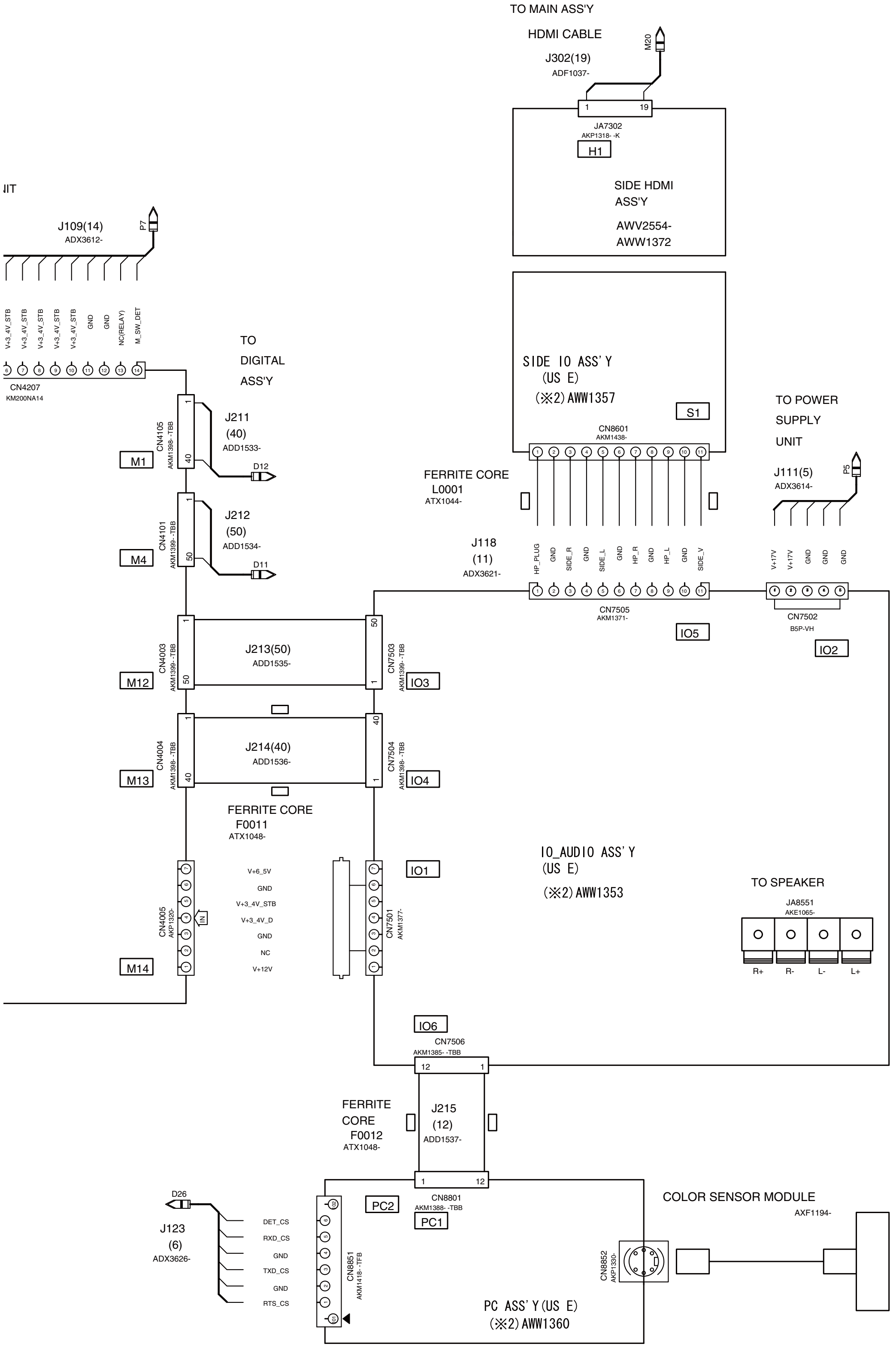
1→26.XSUS_B
2→25.GND
3→24.XSUS_U
4→23.GND
5→22.XSUS_D
6→21.GND
7→20.XSUS_G
8→19.GND
9→18.XPRST
10→17.GND
11→16.XKOFS1
12→15.GND
13→14.XKOFS2
14→13.GND
15→12.XSOFT_D
16→11.GND
17→10.SUS_MUTE
18→ 9.GND
19→ 8.XKOFS1_ADJ
20→ 7.XKOFS2_ADJ
21→ 6.GND
22→ 5.XDD_PD
23→ 4.PSW2
24→ 3.XRSV1
25→ 2.Psize
26→ 1.XSUS_PD

OVERALL DIAGRAM
PRO-151FD

2.2 OVERALL WIRING DIAGRAM (2/2)


A
B
C
D
E
F
FAN MOTOR
80*25L
AXM1064-
AXM1064-
AXM1064-
AXM1064-
J120
(6/3/3)
ADX3623-
FAN_VCC1
FAN_NG2
GND
FAN_VCC1
FAN_NG2
GND
FAN_VCC2
FAN_NG2
GND
NC
FAN_VCC2
FAN_NG2
GND
J121
(7/3/3)
ADX3624-
CN8762
KM200NA6
CN8763
KM200NA7
FA2
FA3
FA1
CN8761
KM200NA4
FAN CONNECT ASS'Y
※2
AWW1364
USB CABLE
J301(5)
ADF1034-
1
5
FERRITE
CORE
F0014
ATX1039-
VBUS
D-
D+
GND
SHIELD
FAN_VCC2
FAN_VCC1
GND
FAN_NG2
J119(4)
ADX3622-
CN4107
AKM1276- -TBB
M6
CN4202
KM200NA4
M5
TO POWER SUPPLY UNIT
J110(15)
ADX3613-
P6
J109(14)
ADX3612-
P7
V+5_1V_STB
GND
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
V+12V
V+12V
AC_DET
GND
V+17V
GND
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
CN4210
KM200NA15
M3
CN4207
KM200NA14
M2
M1
M4
MAIN ASSY(US)
AWV2554-
AWW1371
M12
M13
M15
CN4208
KM200NA7
M11
CN4209
KM200NA10
M20
JA4901
AKP1318- -K
19
1
M14
F0014
FERRITE CORE
ATX1039
HDMI CABLE
H1
J302(19)
ADF1037-
TO SIDE HDMI ASS'Y
J117
(7/3/3)
ADX3620-
GND
RLS_L
V+3_4V_ACT2
V+3_4V_STB
REM
GND
NC
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
KEY2
KEY1
V+3_4V_STB
J116
(10/6/4)
ADX3619-
GND
RLS_L
V+3_4V_ACT2
V+3_4V_STB
REM
GND
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
KEY2
KEY1
V+3_4V_STB
CN8736
AKM1422- -TBB
RL1
RLS ASS'Y
※2
AWW1365
CN8751
AKM1289- -TBB
RE1
IR ASS'Y
※2
AWW1363
CN8721
AKM1425- -TBB
L1
LED ASS'Y
※2
AWW1362
CN8701
AKM1431-
SW1
SIDE KEY
ASS'Y
※2
AWW1361

※2	PRO-151FD	AWV2550-


TO MAIN ASS'Y
HDMI CABLE
J302(19)
ADF1037-
M20
1
19
JA7302
AKP1318- -K
H1
SIDE HDMI
ASS'Y
AWV2554-
AWW1372
IIT
J109(14)
ADX3612-
P7
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
CN4207
KM200NA14
TO
DIGITAL
ASS'Y
CN4105
AKM1398- -TBB
M1
J211
(40)
ADD1533-
D12
CN4101
AKM1399- -TBB
M4
J212
(50)
ADD1534-
D11
SIDE IO ASS'Y
(US E)
(※2) AWW1357
S1
CN8601
AKM1438-
FERRITE CORE
L0001
ATX1044-
J118
(11)
ADX3621-
HP_PLUG
GND
SIDE_R
GND
SIDE_L
GND
HP_R
GND
HP_L
GND
SIDE_V
CN7505
AKM1371-
IO5
TO POWER
SUPPLY
UNIT
J111(5)
ADX3614-
P5
V+17V
V+17V
GND
GND
GND
CN7502
B5P-VH
IO2
CN4003
AKM1399- -TBB
M12
J213(50)
ADD1535-
CN7503
AKM1399- -TBB
IO3
CN4004
AKM1398- -TBB
M13
J214(40)
ADD1536-
CN7504
AKM1398- -TBB
IO4
FERRITE CORE
F0011
ATX1048-
CN4005
AKP1320-
IN
M14
V+6_5V
GND
V+3_4V_STB
V+3_4V_D
GND
NC
V+12V
CN7501
AKM1377-
IO1
IO_AUDIO ASS'Y
(US E)
(※2) AWW1353
TO SPEAKER
JA8551
AKE1065-
R+
R-
L-
L+
IO6
CN7506
AKM1385- -TBB
12
1
FERRITE
CORE
F0012
ATX1048-
J215
(12)
ADD1537-
CN8801
AKM1388- -TBB
PC1
PC2
D26
J123
(6)
ADX3626-
DET_CS
RXD_CS
GND
TXD_CS
GND
RTS_CS
CN8851
AKM1418- -TFB
COLOR SENSOR MODULE
AXF1194-
CN8852
AKP1330-
PC ASS'Y (US E)
(※2) AWW1360

CONNECTOR PIN ASSIGN

CN4003 M12 → CN7503 IO3

1→50. GND	26→25. GND
2→49. HP_PLUG	27→24. EMMA_DA_GY
3→48. WP_EDID	28→23. EMMA_DA_BCB
4→47. DSUB_DET	29→22. EMMA_DA_RCR
5→46. AC_HP_MUTE	30→21. GND
6→45. GND	31→20. EXT_HD
7→44. SDA_AV	32→19. EXT_VD
8→43. SCL_AV	33→18. INT_VD
9→42. GND	34→17. INT_HD
10→41. AC_A_MUTE	35→16. NC
11→40. RST_MSP	36→15. CLP_RGB2
12→39. OTW	37→14. GND
13→38. A_NG_B	38→13. SDA_AV5
14→37. GND	39→12. SCL_AV5
15→36. I2S_BCLK_DTV	40→11. GND
16→35. GND	41→10. SR_OUT
17→34. I2S_LRCLK_DTV	42→ 9. NC
18→33. I2S_SDATA_DTV	43→ 8. NC
19→32. GND	44→ 7. GND
20→31. GND	45→ 6. TXD_232C_1
21→30. GND	46→ 5. RXD_232C_1
22→29. SPDIF_HDMI	47→ 4. NC(232C_EN_B)
23→28. GND	48→ 3. 232C_DET
24→27. GND	49→ 2. RST4
25→26. SPDIF_DTV	50→ 1. GND(IO_DET)

CN4004 M13 → CN7504 IO4

1→40. GND	21→20. GND
2→39. RCR_AD	22→19. SUB_C
3→38. GND	23→18. GND
4→37. BCB_AD	24→17. SUB_Y
5→36. GND	25→16. GND
6→35. GY_AD	26→15. A_TUNER_V
7→34. GND	27→14. GND
8→33. NC	28→13. AIR_L
9→32. GND	29→12. GND
10→31. NC	30→11. AIR_R
11→30. GND	31→10. GND
12→29. NC	32→ 9. AC_AM_MUTE
13→28. GND	33→ 8. TEMP2
14→27. NC	34→ 7. NC
15→26. GND	35→ 6. NC
16→25. NC	36→ 5. NC
17→24. GND	37→ 4. NC
18→23. MAIN_C	38→ 3. MODEL_DET1
19→22. GND	39→ 2. IR_OUT
20→21. MAIN_Y	40→ 1. GND

CN7506 IO6 → CN8801 PC1

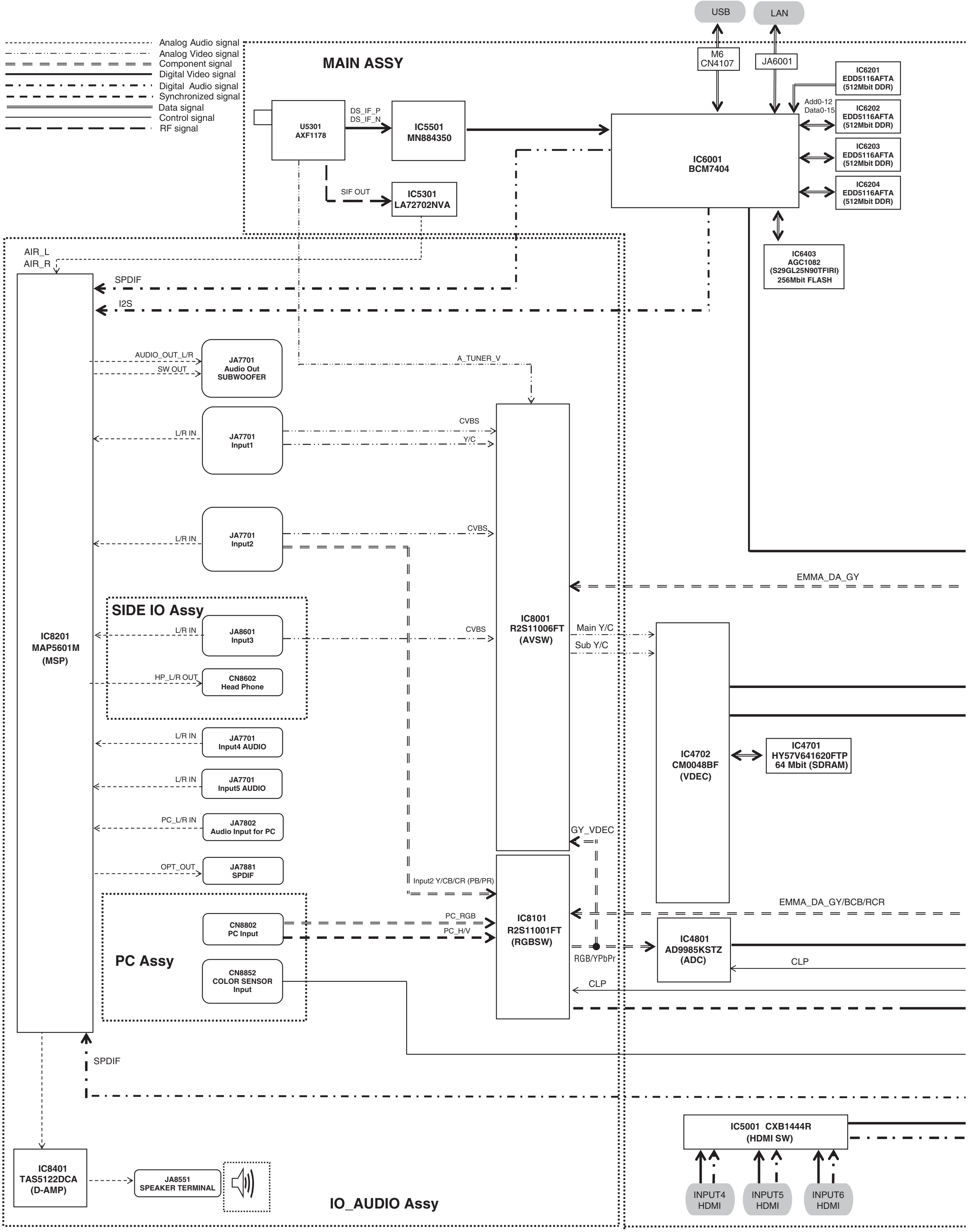
1→12. V+3_4V_D	7→ 6. PC_B
2→11. PC_HD	8→ 5. GND
3→10. PC_VD	9→ 4. PC_G
4→ 9. GND	10→ 3. WP_EDID
5→ 8. PC_R	11→ 2. V+5V_IO
6→ 7. GND	12→ 1. GND

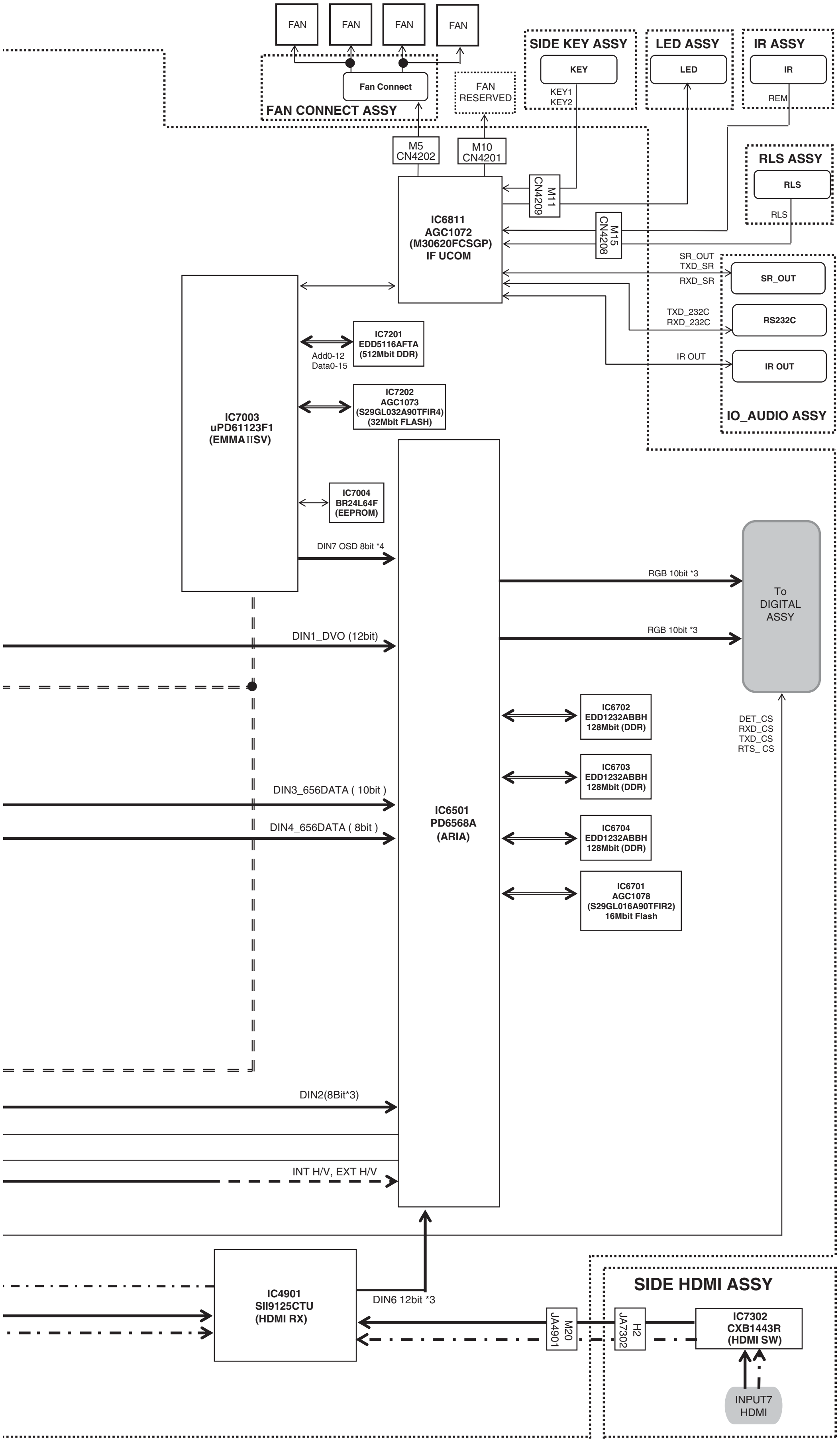
JA4901 M20 → JA7302 H1

1. D2+	11. GND
2. GND	12. CLK−
3. D2−	13. CEC
4. D1+	14. V+3_4_D4
5. GND	15. SCL
6. D1−	16. SDA
7. D0+	17. WP_EDID
8. GND	18. V+DDC5V_1
9. D0−	19. HDMI_P_SIDE
10. CLK+	

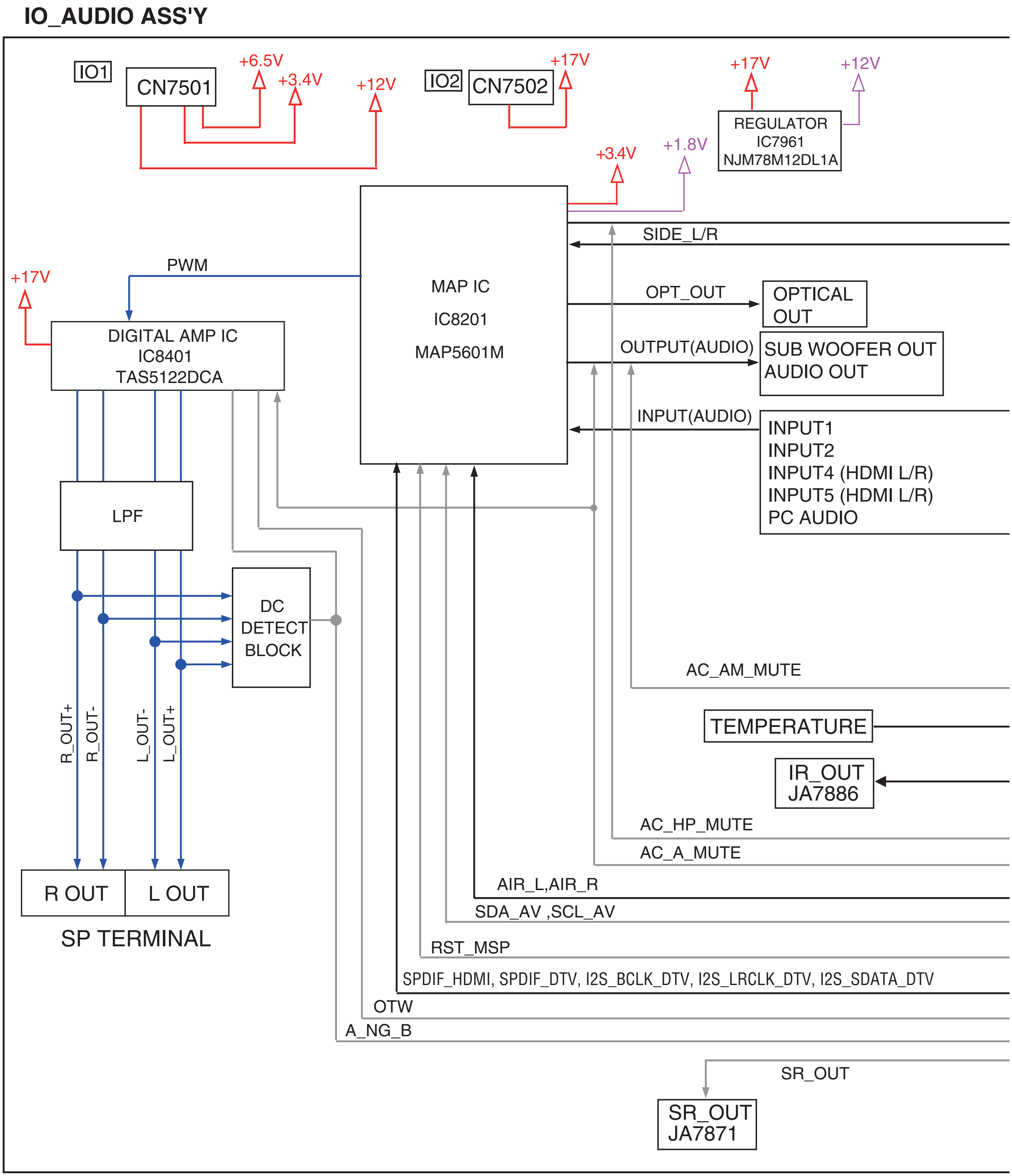
OVERALL DIAGRAM
PRO-151FD

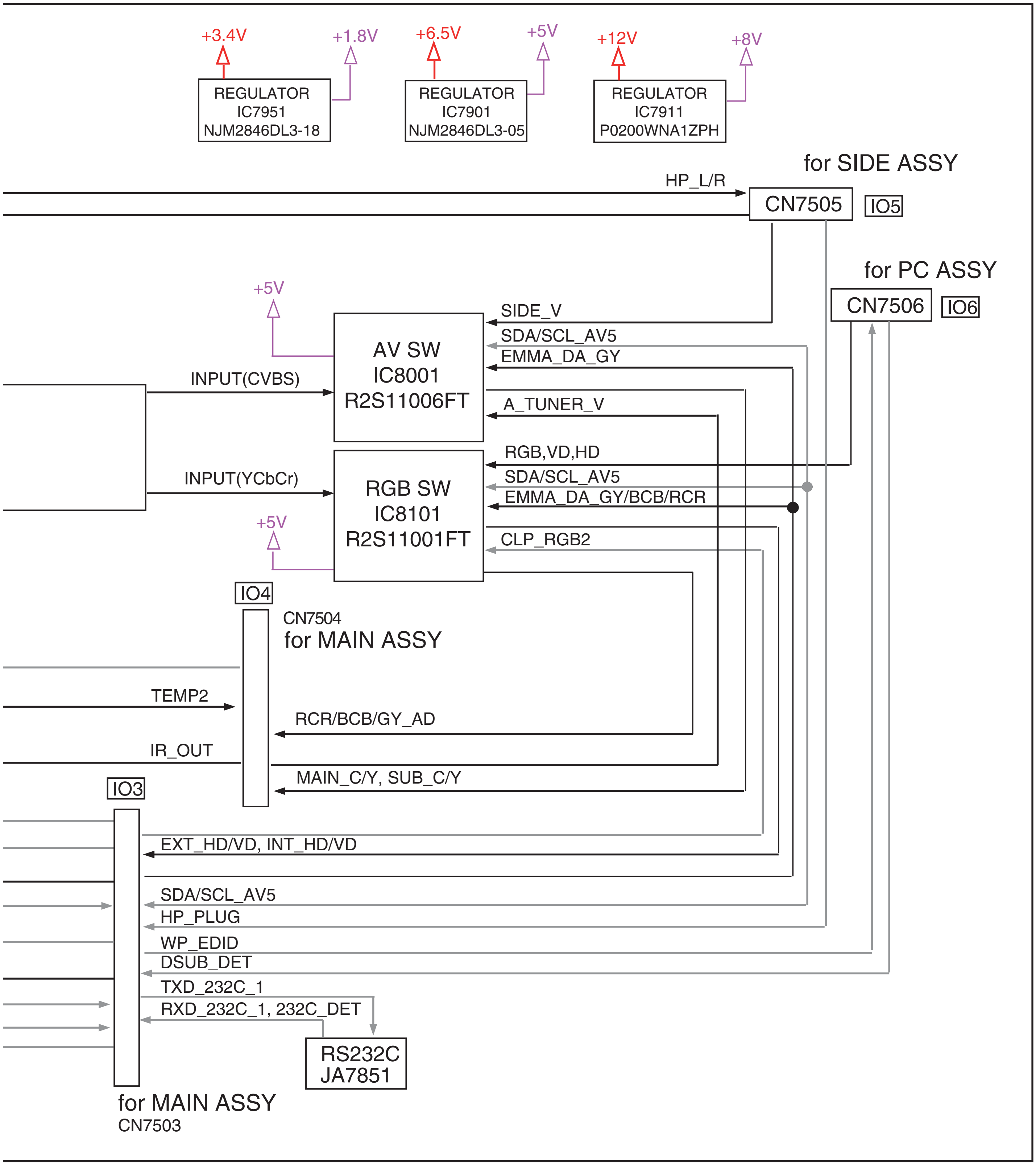
2.3 OVERALL BLOCK DIAGRAM (MULTI BASE SECTION)


Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
USB
LAN
M6
CN4107
JA6001
MAIN ASSY
IC6201
EDD5116AFTA
(512Mbit DDR)
Add0-12
Data0-15
IC6202
EDD5116AFTA
(512Mbit DDR)
IC6203
EDD5116AFTA
(512Mbit DDR)
IC6204
EDD5116AFTA
(512Mbit DDR)
U5301
AXF1178
DS_IF_P
DS_IF_N
IC5501
MN884350
IC6001
BCM7404
SIF OUT
IC5301
LA72702NVA
IC6403
AGC1082
(S29GL25N90TFIRI)
256Mbit FLASH
AIR_L
AIR_R
SPDIF
I2S
AUDIO_OUT_L/R
SW OUT
JA7701
Audio Out
SUBWOOFER
A_TUNER_V
L/R IN
JA7701
Input1
CVBS
Y/C
L/R IN
JA7701
Input2
CVBS
EMMA_DA_GY
SIDE IO Assy
L/R IN
JA8601
Input3
CVBS
IC8201
MAP5601M
(MSP)
IC8001
R2S11006FT
(AVSW)
Main Y/C
Sub Y/C
HP_L/R OUT
CN8602
Head Phone
L/R IN
JA7701
Input4 AUDIO
IC4702
CM0048BF
(VDEC)
IC4701
HY57V641620FTP
64 Mbit (SDRAM)
L/R IN
JA7701
Input5 AUDIO
PC_L/R IN
JA7802
Audio Input for PC
GY_VDEC
OPT_OUT
JA7881
SPDIF
Input2 Y/CB/CR (PB/PR)
EMMA_DA_GY/BCB/RCR
PC_RGB
PC_H/V
CN8802
PC Input
IC8101
R2S11001FT
(RGBSW)
IC4801
AD9985KSTZ
(ADC)
PC Assy
RGB/YPbPr
CLP
CN8852
COLOR SENSOR
Input
CLP
SPDIF
IC5001 CXB1444R
(HDMI SW)
IC8401
TAS5122DCA
(D-AMP)
JA8551
SPEAKER TERMINAL
INPUT4
HDMI
INPUT5
HDMI
INPUT6
HDMI
IO_AUDIO Assy

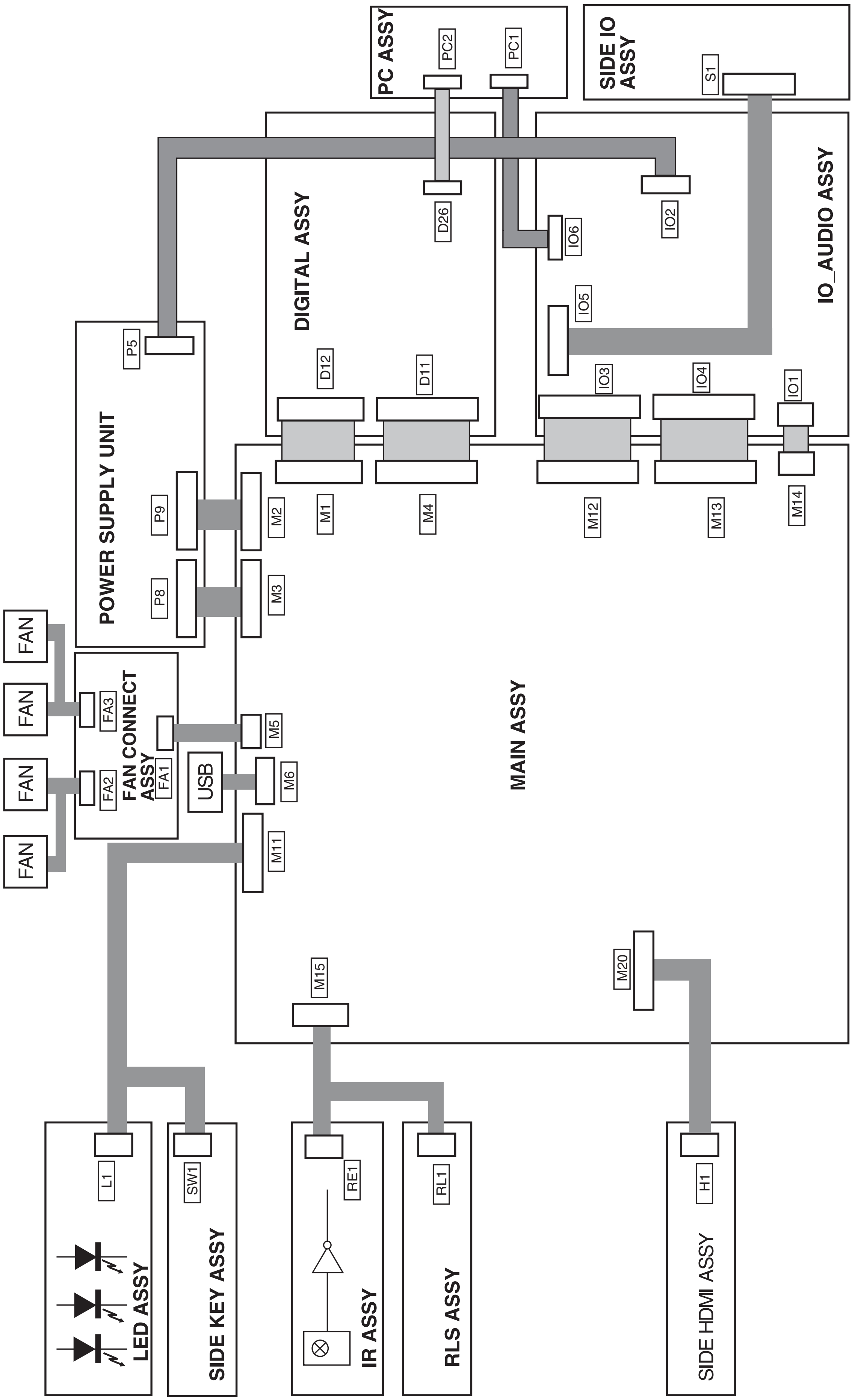

FAN
FAN
FAN
FAN
Fan Connect
FAN CONNECT ASSY
FAN RESERVED
SIDE KEY ASSY
KEY
KEY1
KEY2
LED ASSY
LED
IR ASSY
IR
REM
RLS ASSY
RLS
RLS
M5
CN4202
M10
CN4201
M11
CN4209
M15
CN4208
IC6811
AGC1072
(M30620FCSGP)
IF UCOM
SR_OUT
TXD_SR
RXD_SR
SR_OUT
TXD_232C
RXD_232C
RS232C
IR OUT
IR OUT
IO_AUDIO ASSY
IC7201
EDD5116AFTA
(512Mbit DDR)
Add0-12
Data0-15
IC7202
AGC1073
(S29GL032A90TFIR4)
(32Mbit FLASH)
IC7003
uPD61123F1
(EMMA IISV)
IC7004
BR24L64F
(EEPROM)
DIN7 OSD 8bit *4
RGB 10bit *3
RGB 10bit *3
To
DIGITAL
ASSY
DIN1_DVO (12bit)
IC6702
EDD1232ABBH
128Mbit (DDR)
DET_CS
RXD_CS
TXD_CS
RTS_ CS
IC6703
EDD1232ABBH
128Mbit (DDR)
DIN3_656DATA (10bit)
IC6501
PD6568A
(ARIA)
IC6704
EDD1232ABBH
128Mbit (DDR)
DIN4_656DATA (8bit)
IC6701
AGC1078
(S29GL016A90TFIR2)
16Mbit Flash
DIN2(8Bit*3)
INT H/V, EXT H/V
IC4901
SII9125CTU
(HDMI RX)
DIN6 12bit *3
M20
JA4901
H2
JA7302
SIDE HDMI ASSY
IC7302
CXB1443R
(HDMI SW)
INPUT7
HDMI

2.4 IO_AUDIO ASSY


IO_AUDIO ASS'Y
IO1
CN7501
+6.5V
+3.4V
+12V
IO2
CN7502
+17V
+17V
+12V
REGULATOR
IC7961
NJM78M12DL1A
+3.4V
+1.8V
SIDE_L/R
PWM
+17V
MAP IC
IC8201
MAP5601M
OPT_OUT
OPTICAL OUT
OUTPUT(AUDIO)
SUB WOOFER OUT
AUDIO OUT
DIGITAL AMP IC
IC8401
TAS5122DCA
INPUT(AUDIO)
INPUT1
INPUT2
INPUT4 (HDMI L/R)
INPUT5 (HDMI L/R)
PC AUDIO
LPF
DC DETECT BLOCK
AC_AM_MUTE
R_OUT+
R_OUT-
L_OUT-
L_OUT+
TEMPERATURE
IR_OUT
JA7886
AC_HP_MUTE
AC_A_MUTE
R OUT
L OUT
AIR_L,AIR_R
SP TERMINAL
SDA_AV ,SCL_AV
RST_MSP
SPDIF_HDMI, SPDIF_DTV, I2S_BCLK_DTV, I2S_LRCLK_DTV, I2S_SDATA_DTV
OTW
A_NG_B
SR_OUT
SR_OUT
JA7871


+3.4V
+1.8V
REGULATOR
IC7951
NJM2846DL3-18
+6.5V
+5V
REGULATOR
IC7901
NJM2846DL3-05
+12V
+8V
REGULATOR
IC7911
P0200WNA1ZPH
for SIDE ASSY
HP_L/R
CN7505
IO5
for PC ASSY
CN7506
IO6
+5V
AV SW
IC8001
R2S11006FT
SIDE_V
SDA/SCL_AV5
EMMA_DA_GY
INPUT(CVBS)
A_TUNER_V
RGB SW
IC8101
R2S11001FT
INPUT(YCbCr)
RGB,VD,HD
SDA/SCL_AV5
EMMA_DA_GY/BCB/RCR
+5V
CLP_RGB2
IO4
CN7504
for MAIN ASSY
TEMP2
RCR/BCB/GY_AD
IR_OUT
MAIN_C/Y, SUB_C/Y
IO3
EXT_HD/VD, INT_HD/VD
SDA/SCL_AV5
HP_PLUG
WP_EDID
DSUB_DET
TXD_232C_1
RXD_232C_1, 232C_DET
RS232C
JA7851
for MAIN ASSY
CN7503

2.5 LED and IR ASSYS


PC ASSY
PC2
PC1
SIDE IO ASSY
S1
DIGITAL ASSY
D26
IO_AUDIO ASSY
IO2
IO6
IO5
D12
D11
IO3
IO4
IO1
POWER SUPPLY UNIT
P5
P9
P8
M2
M3
M1
M4
M12
M13
M14
FAN
FAN
FAN
FAN
FAN CONNECT ASSY
FA3
FA2
FA1
USB
M5
M6
M11
MAIN ASSY
M15
M20
L1
SW1
RE1
RL1
H1
LED ASSY
SIDE KEY ASSY
IR ASSY
RLS ASSY
SIDE HDMI ASSY

3. DISASSEMBLY

3.1 PRECAUTIONS FOR SPEAKER SYSTEM

SERVICE PRECAUTIONS

Be careful in handling this product, because scratches on cabinet coating are easily noticeable.
When working on this unit, be sure to place the cabinet on a piece of soft cloth for protection.

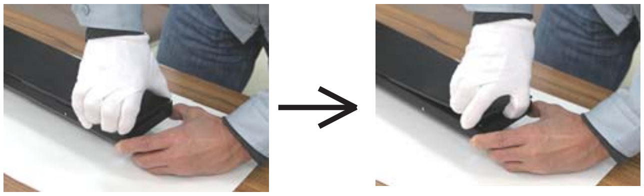
[1] Grille Assy

The Grille Assy is secured to the baffle plate with two-sided tape and bosses. When removing the Grille Assy, it is necessary to wear cotton gloves.

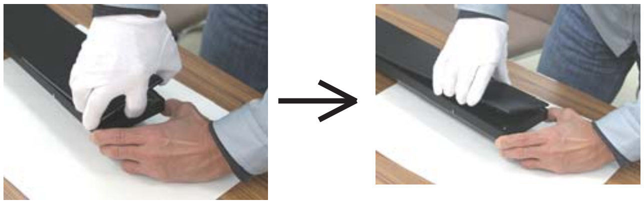
● Disassembly

Remove it from the under side.

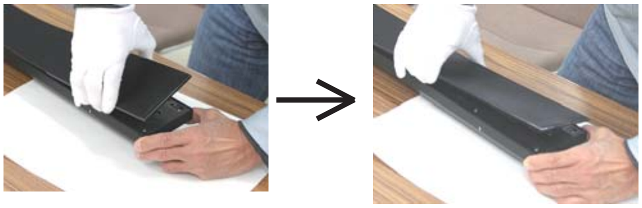
1. Insert the tip of your gloved finger into the gap between the Grille Assy in front and the corner of the baffle plate so that the Grille Assy is slightly lifted.



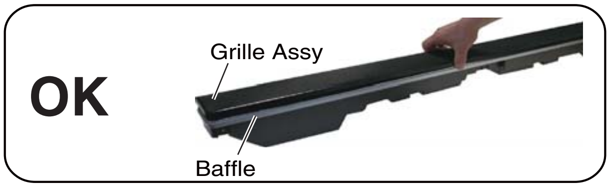
2. Insert the gloved finger to the extent of the second joint into the gap between the cabinet and the Grille Assy.

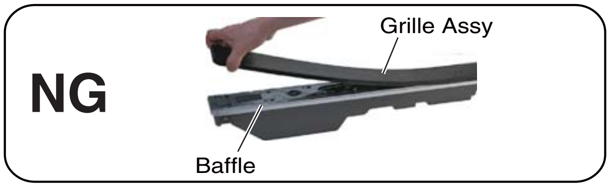


3. Alternately and gradually lift the left and right sides of the Grille Assy by about 5 cm, sliding gloved fingers along the cabinet. When lifting the Grille Assy, be sure to lift the left and right sides alternately, but not both sides simultaneously.



Note: Be careful not to bend the Grille Assy too far. Otherwise, it may be damaged.
OK: Good example **NG:** Bad example





● Reassembly

Remove the old two-sided tape attached to the rear side of the Grille Assy and the front side of the baffle, and adhere new two-sided tape. Press the bosses into the baffle plate and press the entire grill into position.

[2] Woofer (Disassembly)

The woofer is secured to the baffle plate with four screws from the inside. To remove the woofer, first remove the baffle plate.

● Reassembly

When reassembling the woofer, place it so that its ⊕ terminal is facing downward. Tighten the screws to the baffle.

[3] Tweeter (Disassembly)

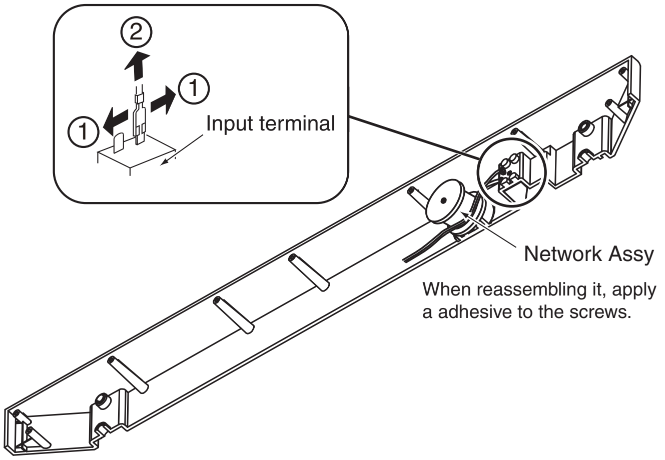
The tweeter is secured to the baffle plate with two screws from the inside. To remove the tweeter, first remove the baffle plate.

● Reassembly

When reassembling the tweeter, ⊕ terminal faces outside.

Network Assy (Caution)

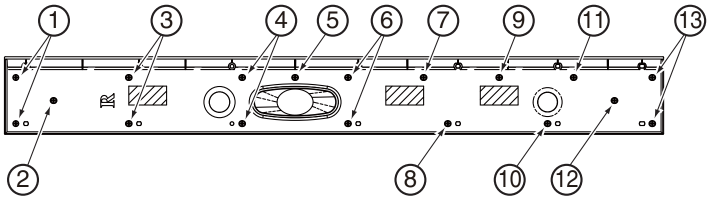
When removing the Network Assy, pull it out a little at a time from alternate sides, because it is seated tightly.



When reassembling it, apply a adhesive to the screws.

Baffle Assy (Caution)

When reassembling the cabinet and the baffle plate, secure the screws in the order shown in the figure below:



4. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

4.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

For each setting and adjustment when each PCB Assy and parts are replaced, refer to the original service manual (ARP3478).

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2554	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC7301	EEPROM	BR24L02FV-W
		IC6001	System IC	BCM7404XKPB11G
		IC7004	EEPROM	BR24L64F-W
		IC6201	DDR SDRAM	EDD5116AFTA-5B-E
		IC6202	DDR SDRAM	EDD5116AFTA-5B-E
		IC6203	DDR SDRAM	EDD5116AFTA-5B-E
		IC6204	DDR SDRAM	EDD5116AFTA-5B-E
		IC6403	Flash ROM	AGC1082
		IC6701	Flash ROM	AGC1078
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1073
AWV2538	DIGITAL Assy	IC3302	Flash ROM	AGC1069
		IC3601	Flash UCOM	AGC1068
AWW1360	PC Assy	IC8802	EEPROM	BR24L01AFJ-W
AWV2540	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2541	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2554	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
		IC5501	Demodulator	MN884350
AWW1353	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED.
IO AUDIO Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED.
DIGITAL Assy	➡	No adjustment required
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	➡	No adjustment required
PANEL SENSOR Assy	➡	No adjustment required
Other assemblies	➡	No adjustment required

A

B

C

D

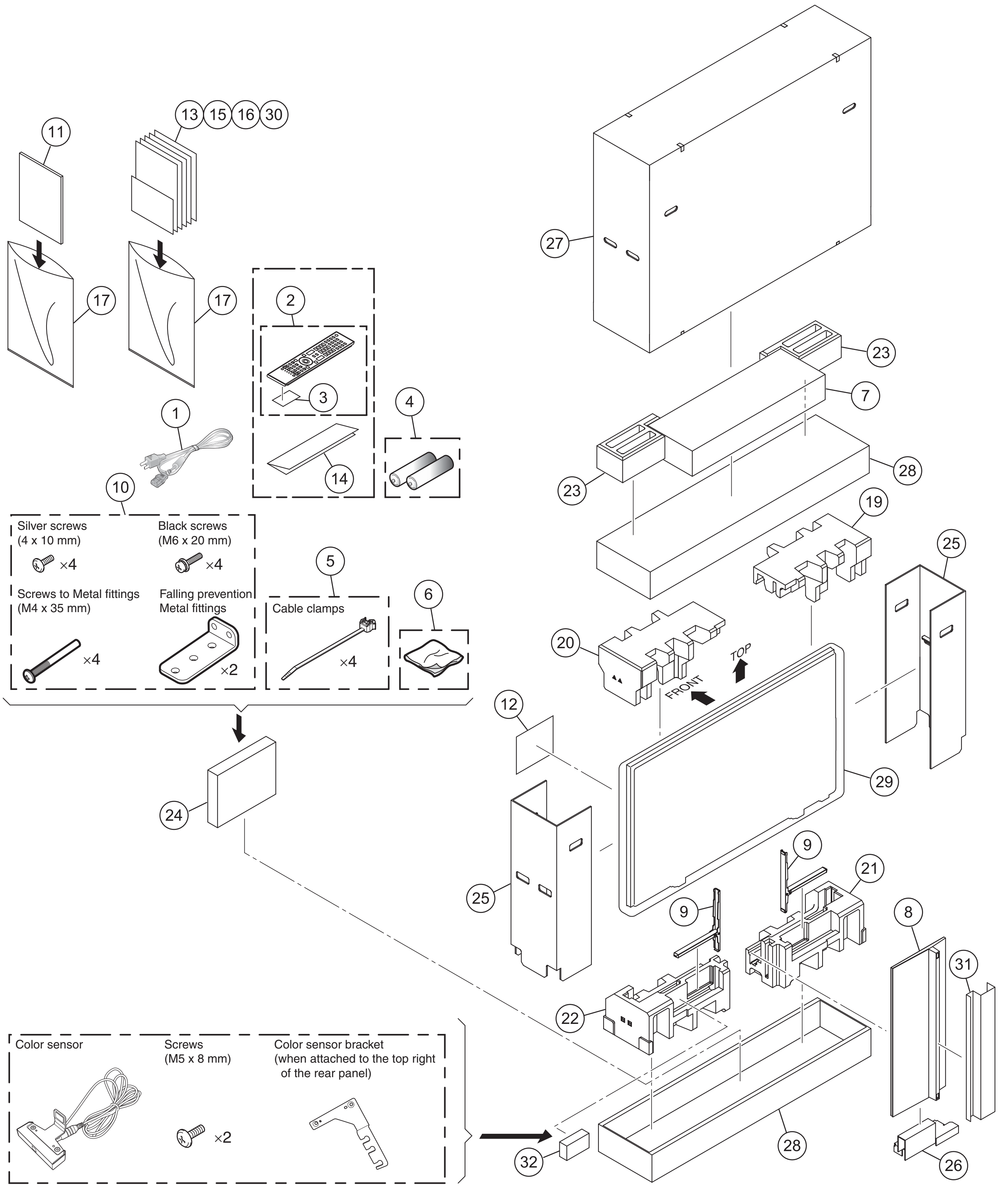
E

F

5. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

5.1 PACKING SECTION



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Silver screws
(4 x 10 mm)
×4
Black screws
(M6 x 20 mm)
×4
Screws to Metal fittings
(M4 x 35 mm)
×4
Falling prevention
Metal fittings
×2
5
Cable clamps
×4
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TOP
FRONT
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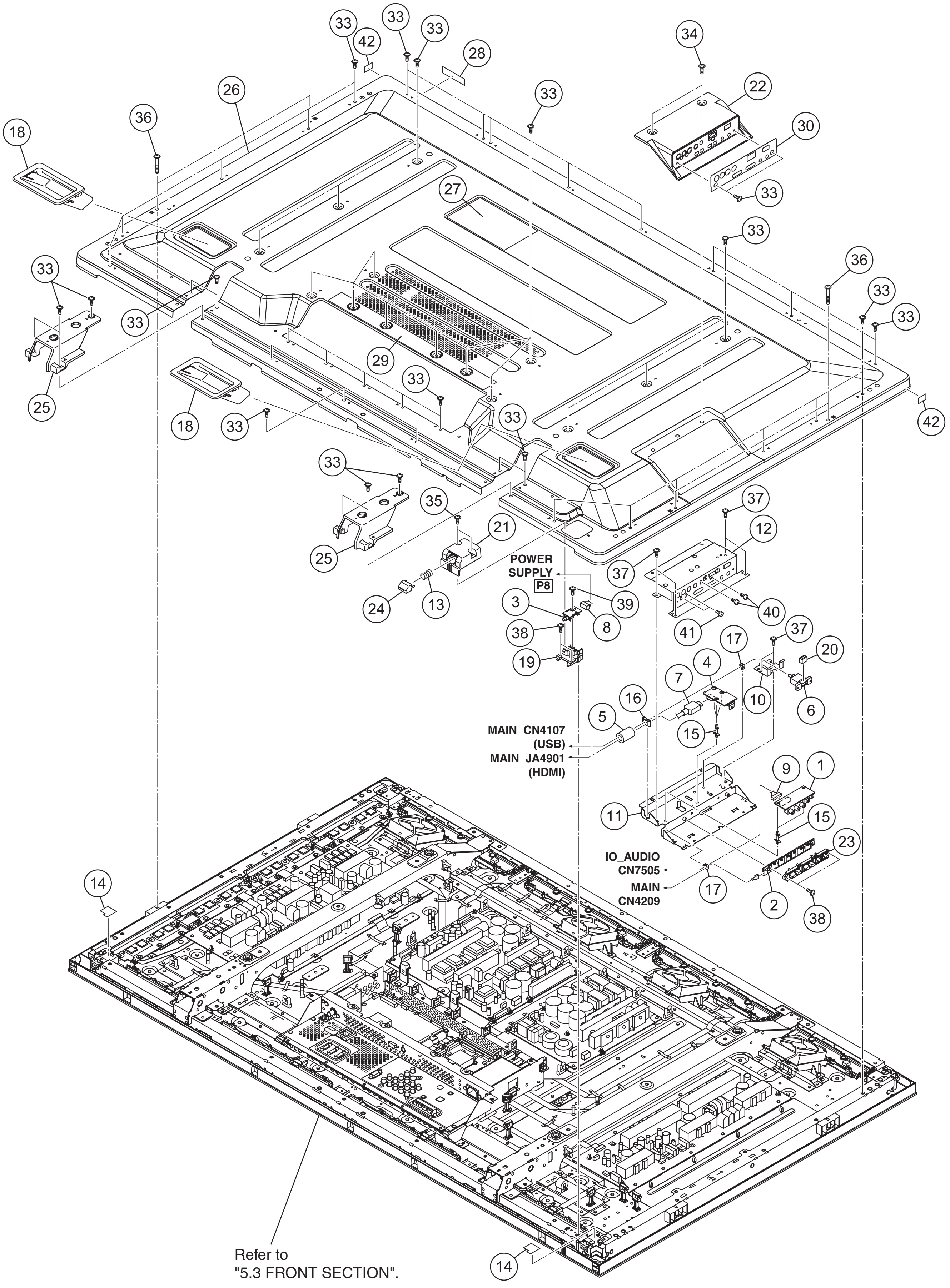
Color sensor
Screws
(M5 x 8 mm)
×2
Color sensor bracket
(when attached to the top right
of the rear panel)

PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m/6.6 feet)	ADG1215
	2	Remote Control	AXD1560
	3	Battery Cover (Black)	AZN2783
NSP	4	Alkaline Dry Cell Battery (LR6, AA)	VEM1023
	5	Binder Assy	AEC2158
	6	Cleaning Cloth	AED1285
NSP	7	Speaker System	SMW2026
	8	Base Cover	AXY1221
	9	Stand Pipe	AXY1222
	10	Stand Accessory Assy	AXY1212
	11	Operating Instructions (English)	ARB1579
	12	Caution Card	ARM1239
	13	Cleaning Caution (U)	ARM1303
	14	Power Button Caution	ARM1390
NSP	15	Card (Register)	ARY1215
NSP	16	Warranty Card EL	ARY1123
	17	Polyethylene Bag	AHG1394
	18	• • • • •	
	19	Pad (609 T-L)	AHA2703
	20	Pad (609 T-R)	AHA2704
	21	Pad (609 B-L)	AHA2705
	22	Pad (609 B-R)	AHA2706
	23	Option Pad (609U)	AHA2717
	24	Accessory Box	AHC1091
	25	Sub Carton LR (609U)	AHC1108
	26	Center Carton (609U)	AHC1119
	27	Upper Carton (609EL)	AHD3659
	28	Under Carton (609U)	AHD3655
	29	Mirror Mat	AHG1385
	30	Digital TV Trans Inf	ARM1399
	31	Shading Board Assy	AMR3855
	32	Color Sensor Module	AXF1194

5.2 REAR SECTION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POWER SUPPLY P8
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MAIN CN4107 (USB)
MAIN JA4901 (HDMI)
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IO_AUDIO CN7505
MAIN CN4209
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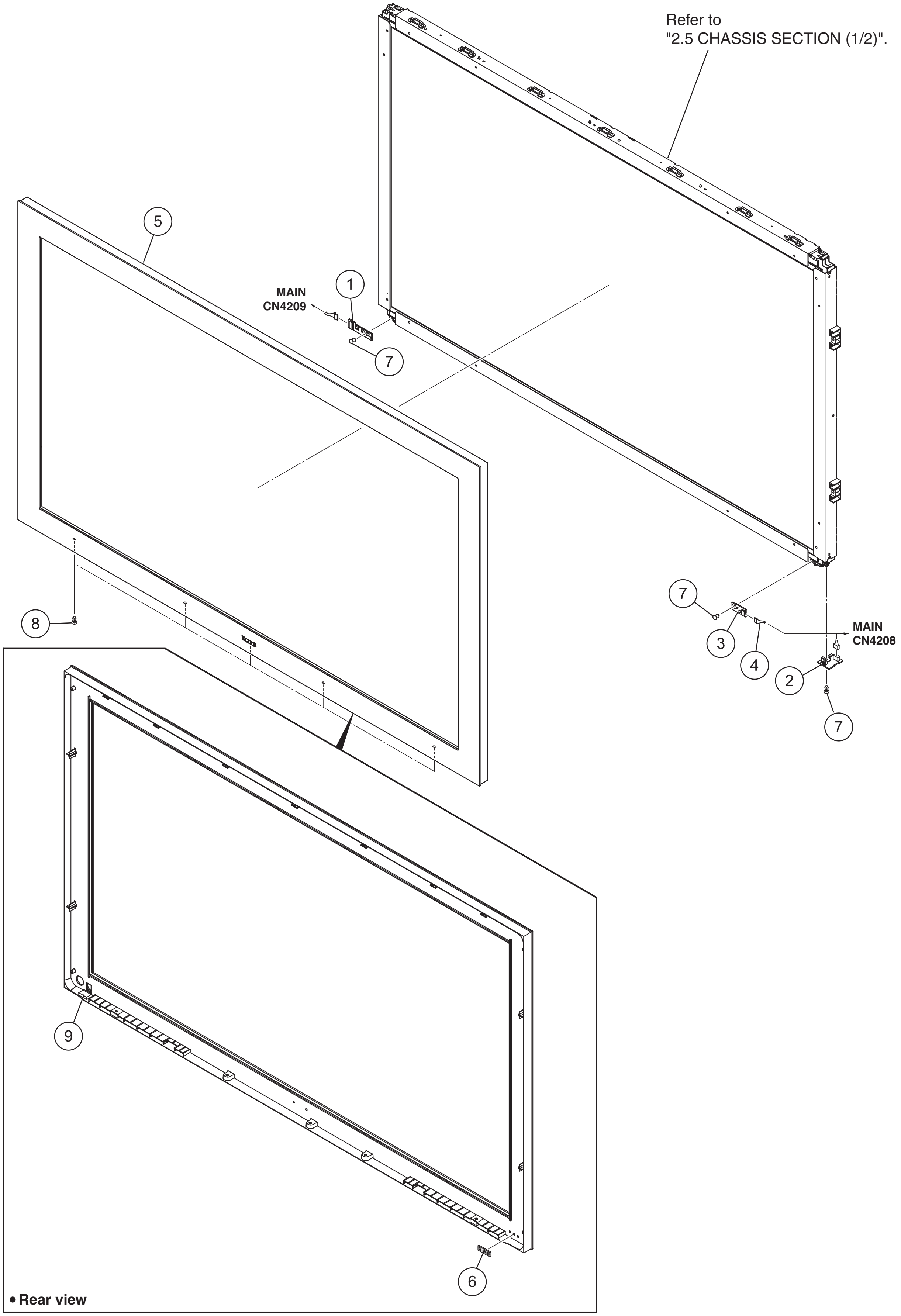
Refer to "5.3 FRONT SECTION".

REAR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	SIDE IO Assy	AWW1357
	2	SIDE KEY Assy	AWW1361
	3	POWER SW Assy	AWW1366
	4	SIDE HDMI Assy	AWW1372
	5	Ferrite Core (F14)	ATX1039
	6	USB Cable (J301)(120 cm)	ADF1034
	7	HDMI Cable (J302)(1150 mm)	ADF1037
	8	3P Housing Wire (J103)	ADX3606
	9	11P Housing Wire (J118)	ADX3621
	10	USB Holder	ANG3134
	11	Side Input Base	ANG3135
	12	Side Input Shield	ANG3136
	13	Coil Spring	ABH1125
	14	Sensor Cushion B (428)	AEB1486
NSP	15	PCB Spacer	AEC1084
	16	Edge Saddle	AEC1571
	17	Mini Clamp	AEC1971
	18	Inner Grip Assy	AMR3693
	19	Power Button Support	AMR3763
	20	USB Gasket	ANK1962
	21	Power Button Case	AAK2927
	22	Side Input Cover	AMR3754
	23	Operation Button	AAC1569
	24	Power Button (508F)	AAD4152
	25	Sub Frame Cover	AMR3752
	26	Rear Case Assy 60	ANE1686
NSP	27	Name Label (609EL)	AAL3023
NSP	28	Serial Seal	AAX3182
	29	Label A (E)	AAX3567
	30	Side Label (EL)	AAK2930
	31	• • • • •	
	32	• • • • •	
	33	Screw (M3 x 6)	ABA1377
	34	Screw (M3 x 10)	ABA1378
	35	Screw (3 x 8 P)	ABA1379
	36	Screw (3 x 25 P)	ABA1380
	37	Screw	AMZ30P060FTB
	38	Screw	AMZ30P080FTB
	39	Screw	APZ30P080FTB
	40	Screw	BMZ30P080FTB
	41	Screw	BPZ30P080FTB
	42	Protect Sheet (609)	AED1339

5.3 FRONT SECTION


Refer to
"2.5 CHASSIS SECTION (1/2)".
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• Rear view

FRONT SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	LED Assy	AWW1362
	2	IR Assy	AWW1363
	3	RLS Assy	AWW1365
	4	7/3/3P Housing Wire (J117)	ADX3620
	5	Front Bezel (151FD)	AMB3071
	6	Blind Cushion (508F)	AEB1479
	7	Nylon Rivet	AEC1671
	8	Rivet (Plastic)	AEC1877
	9	Blind Cushion (609)	AEB1501

5.4 CHASSIS SECTION (1/2)

Cleaning paper :
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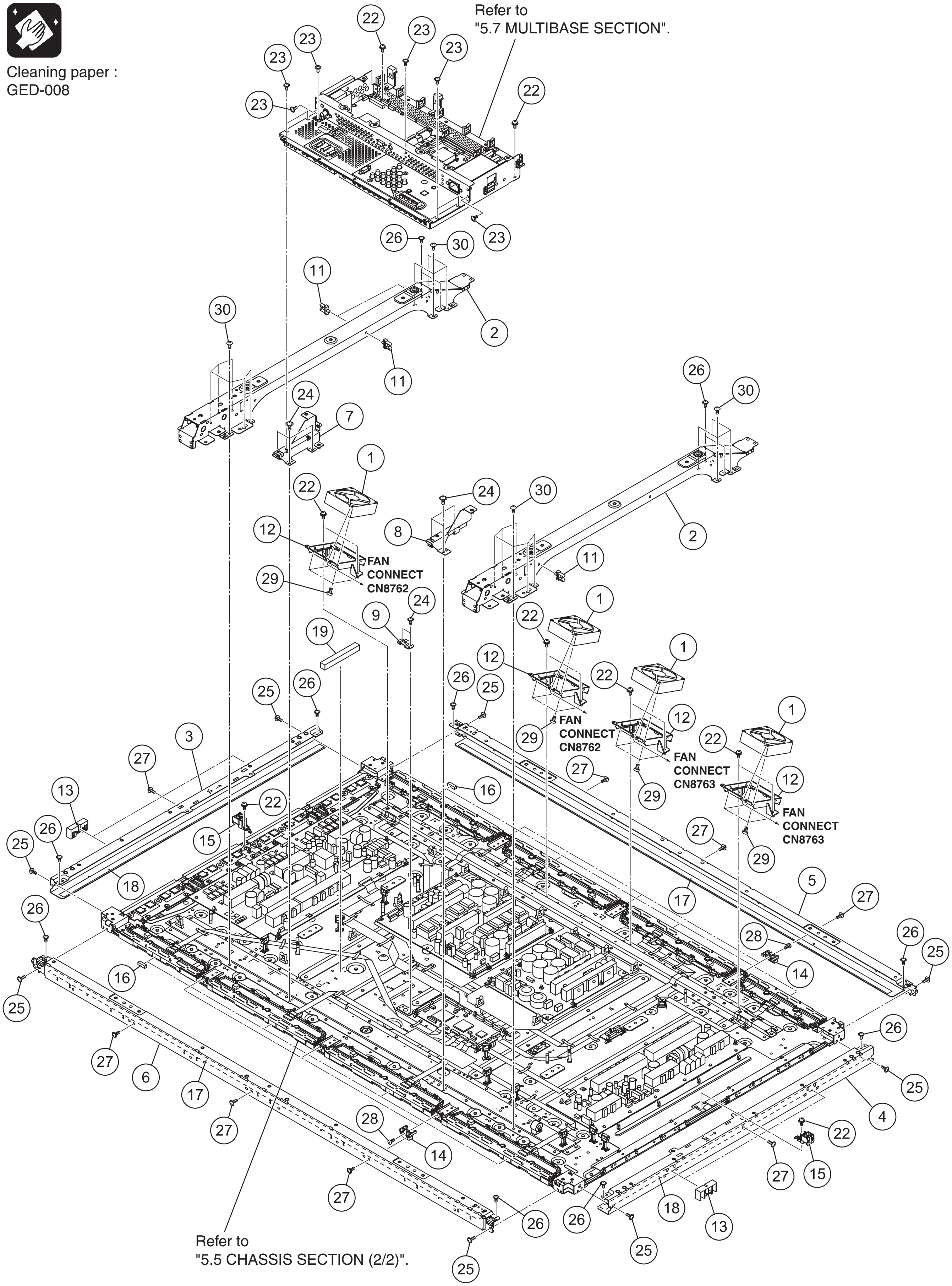
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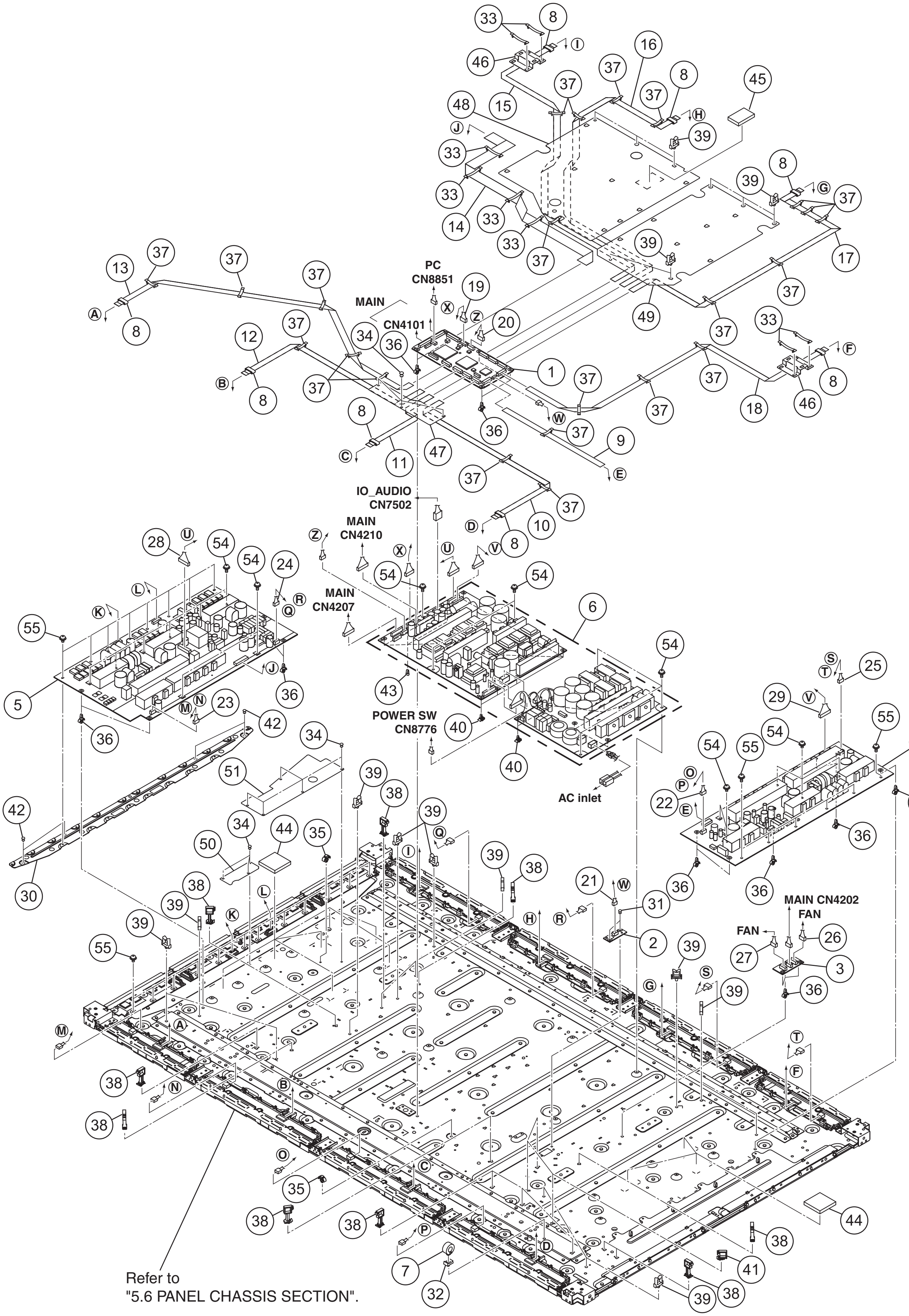
Refer to
"5.7 MULTIBASE SECTION".

Refer to
"5.5 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

Mark	No.	Description	Part No.
⚠	1	DC FAN Motor 80 x 25L	AXM1064
	2	Sub Frame Assy	ANA2127
	3	F. Chassis VL Assy	ANA2184
	4	F. Chassis VR Assy	ANA2128
	5	F. Chassis HT Assy	ANA2132
	6	F. Chassis HB Assy	ANA2133
	7	Multi Base Holder L	ANG3137
	8	Multi Base Holder R	ANG3138
	9	Multi Base Holder C	ANG3139
	10	• • • •	
	11	Reuse Wire Saddle	AEC2134
	12	FAN Bracket	AMR3753
	13	Front Bezel Support	AMR3755
	14	F. Chassis H Guide	AMR3756
	15	Support Bracket	AMR3762
	16	Address Gasket	ANK1947
	17	Front Gasket H	ANK1960
	18	Front Gasket V	ANK1961
	19	Gasket (10 x 10 x 80)	ANK1974
	20	• • • •	
	21	• • • •	
	22	Screw	ABA1313
	23	Screw (M3 x 6)	ABA1377
	24	Screw	ABZ30P060FTB
	25	Screw	ABZ30P080FTC
	26	Screw	AMZ30P060FTB
	27	Screw	APZ30P080FTB
	28	Screw	BMZ30P080FTB
	29	Screw	PPZ50P100FTB
	30	Screw	TBZ40P060FTC

5.5 CHASSIS SECTION (2/2)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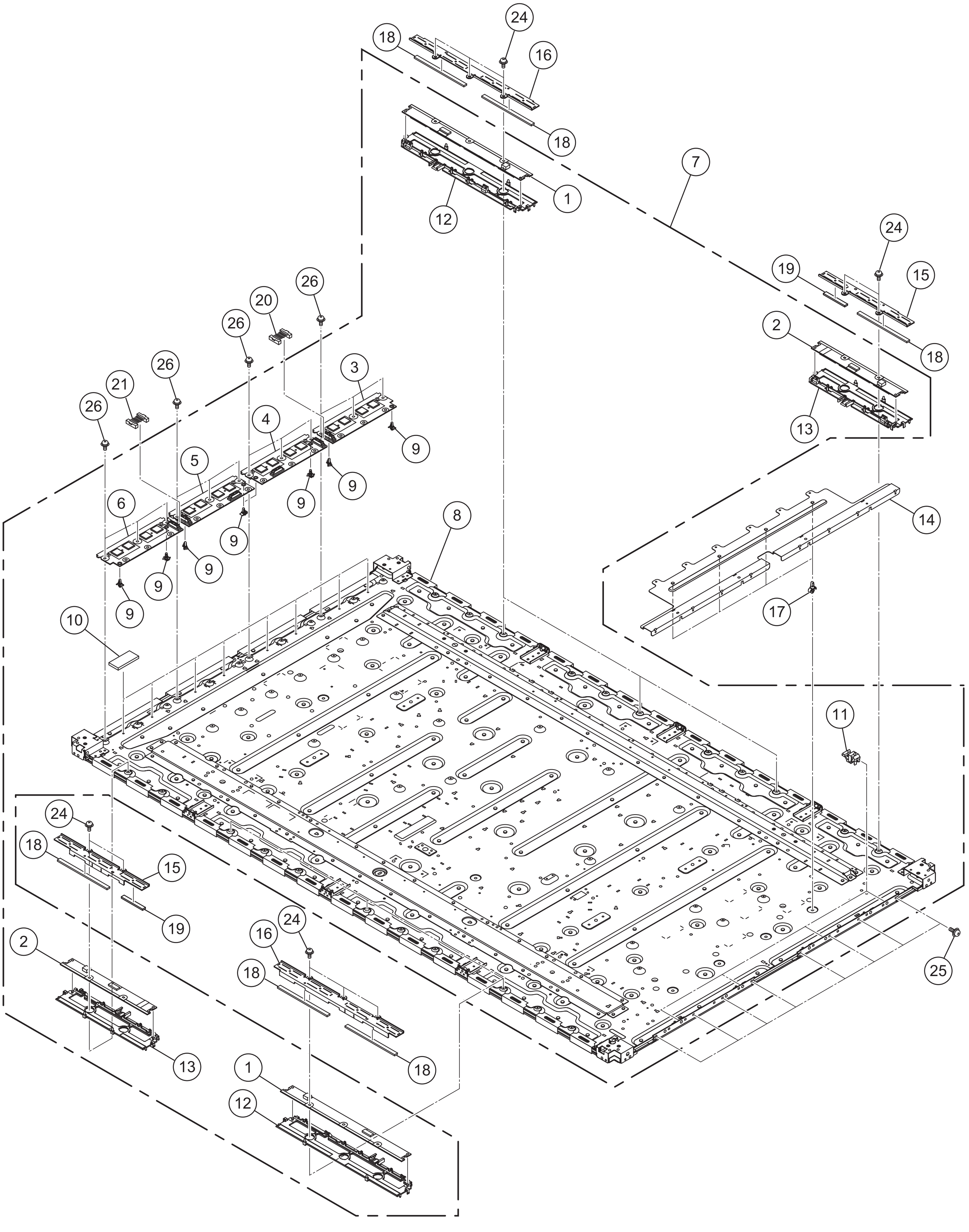
Refer to
"5.6 PANEL CHASSIS SECTION".

CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	60F DIGITAL Assy	AWW1339
	2	SENSOR Assy	AWW1340
	3	FAN CONNECT Assy	AWW1364
	4	60F X DRIVE Assy	AWV2540
	5	60F Y DRIVE Assy	AWV2541
⚠	6	POWER SUPPLY Unit	AXY1201
	7	Ferrite Core (L1)	ATX1044
	8	Ferrite Core (F1 - F8)	ATX1072
	9	Flexible Cable (J201)	ADD1523
	10	Flexible Cable (J202)	ADD1524
	11	Flexible Cable (J203)	ADD1525
	12	Flexible Cable (J204)	ADD1526
	13	Flexible Cable (J205)	ADD1527
	14	Flexible Cable (J206)	ADD1528
	15	Flexible Cable (J207)	ADD1529
	16	Flexible Cable (J208)	ADD1530
	17	Flexible Cable (J209)	ADD1531
	18	Flexible Cable (J210)	ADD1532
	19	10P Housing Wire (J106)	ADX3609
	20	6P Housing Wire (J107)	ADX3610
	21	5P Housing Wire (J108)	ADX3611
	22	5/3/3P Housing Wire (J112)	ADX3615
	23	5/3/3P Housing Wire (J113)	ADX3616
	24	5/3/3P Housing Wire (J114)	ADX3617
	25	5/3/3P Housing Wire (J115)	ADX3618
	26	6/3/3P Housing Wire (J120)	ADX3623
	27	7/3/3P Housing Wire (J121)	ADX3624
	28	12P/11P Housing Wire (J101)	ADX3672
	29	11P Housing Wire (J102)	ADX3673
	30	Plate Y	ANG3133
	31	Nylon Rivet	AEC1671
	32	Ferrite Core Holder	AEC1818
	33	Flat Clamp	AEC1879
	34	Nylon Rivet	AEC2089
	35	Reuse Card Spacer	AEC2117
	36	PCB Spacer (Reuse)	AEC2122
	37	Flat Clamp	AEC2132
	38	Reuse Fastener	AEC2133
	39	Reuse Wire Saddle	AEC2134
	40	Reuse PCB Spacer 6.0	AEC2135
	41	Reuse Locking Clamp	AEC2144
	42	Cap Spacer	AEC2145
	43	Mini PCB Spacer 5.0	AEC2149
	44	Drive Sheet	AEH1155
⚠	45	Power Assy Silicon	AEH1181
	46	FAN Sheet A	AMR3764
	47	Digital Sheet	AMR3765
⚠	48	Power Sheet A	AMR3766
⚠	49	Power Sheet B	AMR3767
	50	Y Drive Sheet B	AMR3769
	51	Y Drive Sheet A (M)	AMR3881
	52	• • • • •	
	53	• • • • •	
	54	Screw	ABA1313
	55	Screw	ABA1364

5.6 PANEL CHASSIS SECTION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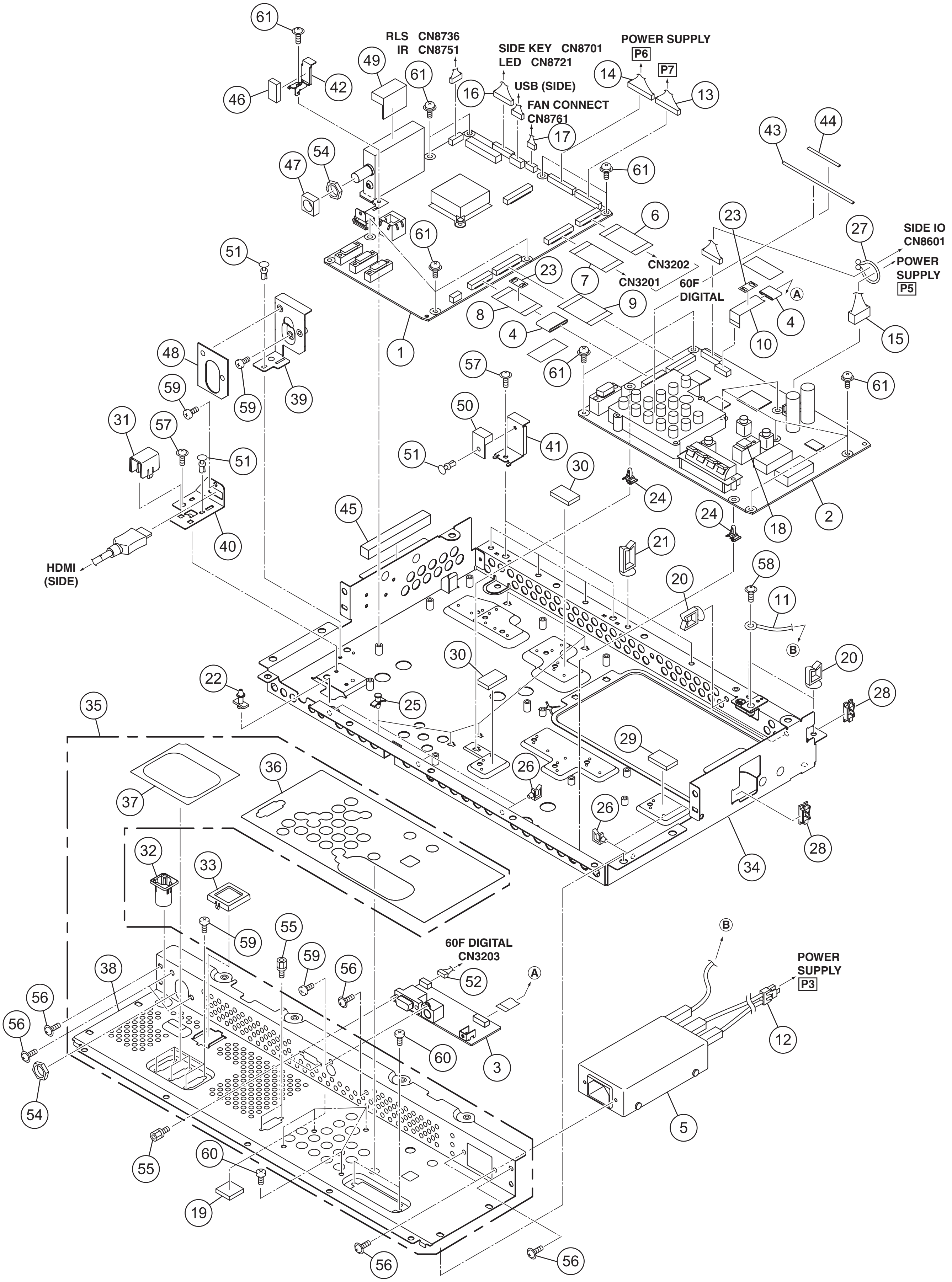
PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.
NSP	1	60F ADDRESS L Assy	AWW1341
NSP	2	60F ADDRESS S Assy	AWW1342
NSP	3	60F SCAN A Assy	AWW1343
NSP	4	60F SCAN B Assy	AWW1344
NSP	5	60F SCAN C Assy	AWW1345
NSP	6	60F SCAN D Assy	AWW1346
NSP	7	P. Chassis (609FE) Assy	AWU1288
NSP	8	P. Panel (60FE) Assy	AWU1290
	9	Reuse PCB Spacer 4.5B	AEC2161
	10	Scan Sheet	AEH1154
	11	Plate Holder	AMR3757
	12	Address Holder Assy L	AMR3758
	13	Address Holder Assy S	AMR3759
	14	Plate X	ANG3132
⚠	15	Address Heatsink S	ANH1704
⚠	16	Address Heatsink L	ANH1705
	17	PCB Spacer (Reuse)	AEC2122
	18	Address Silicon A (508)	AEH1146
	19	Address Silicon C	AEH1156
	20	3 Piece Connector 15P (CN101)	AKM1393
	21	3 Piece Connector 15P (CN102)	AKM1393
	22	• • • • •	
	23	• • • • •	
	24	Screw	ABA1351
	25	Screw (M3 x 6) SN	ABA1366
	26	Screw	ABA1313

5.7 MULTIBASE SECTION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RLS CN8736
IR CN8751
SIDE KEY CN8701
LED CN8721
POWER SUPPLY
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USB (SIDE)
FAN CONNECT
CN8761
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SIDE IO
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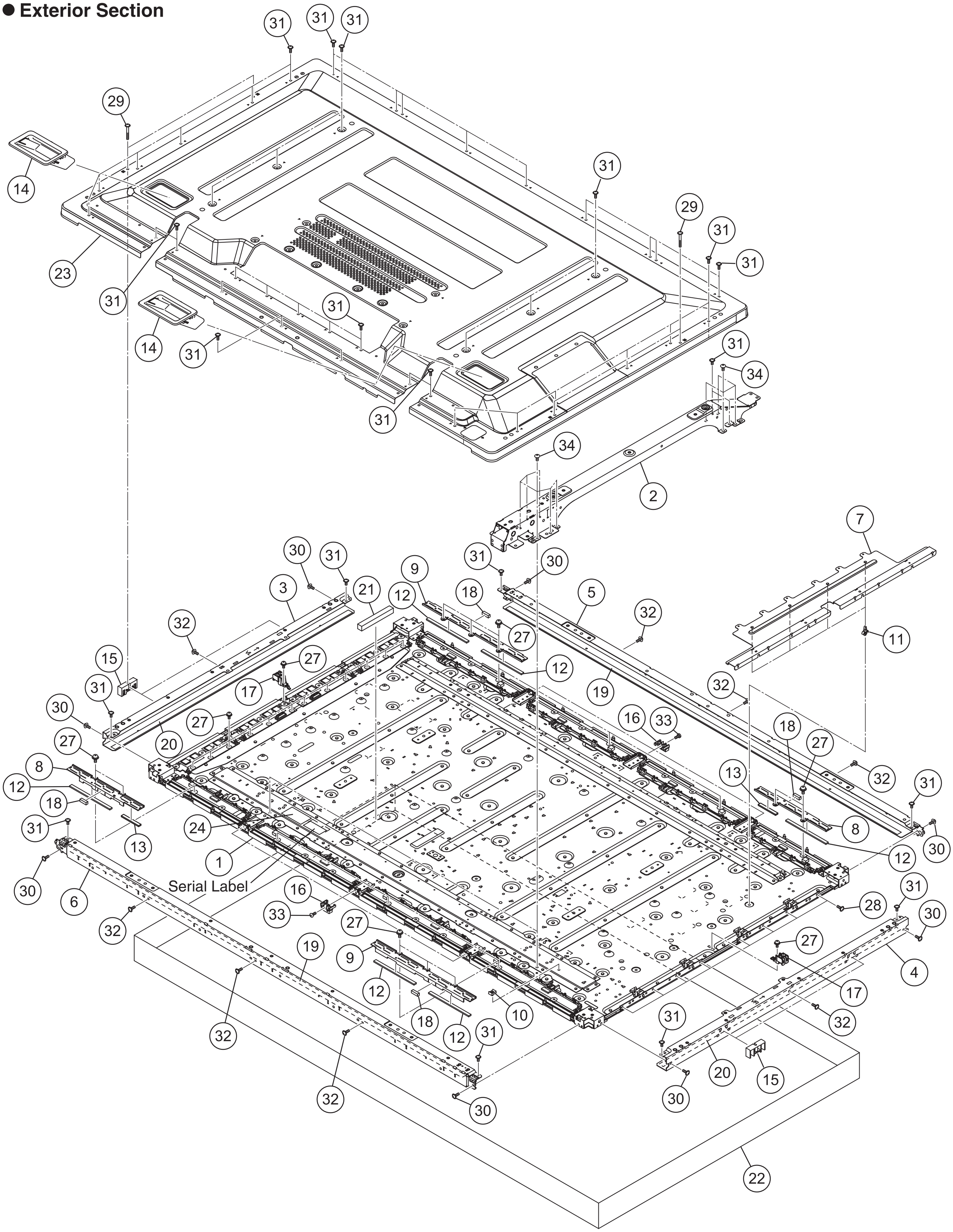
MULTIBASE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWW1371
	2	IO_AUDIO Assy	AWW1353
	3	PC Assy	AWW1360
	4	Ferrite Core (F11, F12)	ATX1048
⚠	5	AC Inlet (CN1)	AKP1336
	6	Flexible Cable (J211)	ADD1533
	7	Flexible Cable (J212)	ADD1534
	8	Flexible Cable (J213)	ADD1535
	9	Flexible Cable (J214)	ADD1536
	10	Flexible Cable (J215)	ADD1537
⚠	11	Housing Wire (J105)	ADX3608
⚠	12	Housing Wire (J104)	ADX3607
	13	14P Housing Wire (J109)	ADX3612
	14	15P Housing Wire (J110)	ADX3613
	15	5P Housing Wire (J111)	ADX3614
	16	10/6/4P Housing Wire (J116)	ADX3619
	17	4P Housing Wire (J119)	ADX3622
	18	Rubber Sheet	AEB1498
	19	Cushion	AEB1499
	20	Wire Saddle	AEC1745
	21	Wire Saddle	AEC1797
	22	Circuit Board Spacer	AEC1872
	23	Ferrite Stopper	AEC1981
	24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161
	25	PCB Spacer	AEC2146
	26	HDMI Clamp	AEC2147
	27	Clamp	AEC2156
	28	Edge Holder	AEC2159
	29	Silicon Sheet MTB A	AEH1174
	30	Silicon Sheet MTB B	AEH1175
	31	Cable Holder	AMR3770
	32	Sleeve	AMR3771
	33	Ether Cover	AMR3789
	34	MTB Assy	ANA2150
	35	1..T Panel UE Assy	ANC2469
	36	2..Label B1 (UE)	AAX3572
	37	2..Label B2 (U)	AAX3582
	38	2..Terminal Panel (UE)	ANC2464
	39	Tuner Panel (U)	ANG3146
	40	HDMI Holder	ANG3147
	41	Earth BKT A	ANG3182
	42	Earth BKT C	ANG3184
	43	Gasket T	ANK1965
	44	Gasket 3 x 40	ANK1971
	45	Gasket (10 x 10 x 80)	ANK1974
	46	Gasket (10 x 5 x 20)	ANK1976
	47	Gasket (U)	ANK1977
	48	Gasket A	ANK1979
	49	Gasket B	ANK1980
	50	Gasket (10 x 8 x 15)	ANK1982
	51	Nylon Rivet	AEC1671
	52	6P Housing Wire (J123)	ADX3626
	53	• • • • •	
	54	Washer Faced Nut	BBN1005
	55	Hexagon Headed Screw	ABA1382
	56	Screw (M3 x 6)	ABA1377
	57	Screw	AMZ30P060FTB
	58	Screw	BMP40P080FSN
	59	Screw	BMZ30P060FTB
	60	Screw	BPZ30P080FTB
	61	Screw	PMB30P060FNI

5.8 PDP SERVICE ASSY

PDP SERVICE ASSY 609FE : AWU1347

● Exterior Section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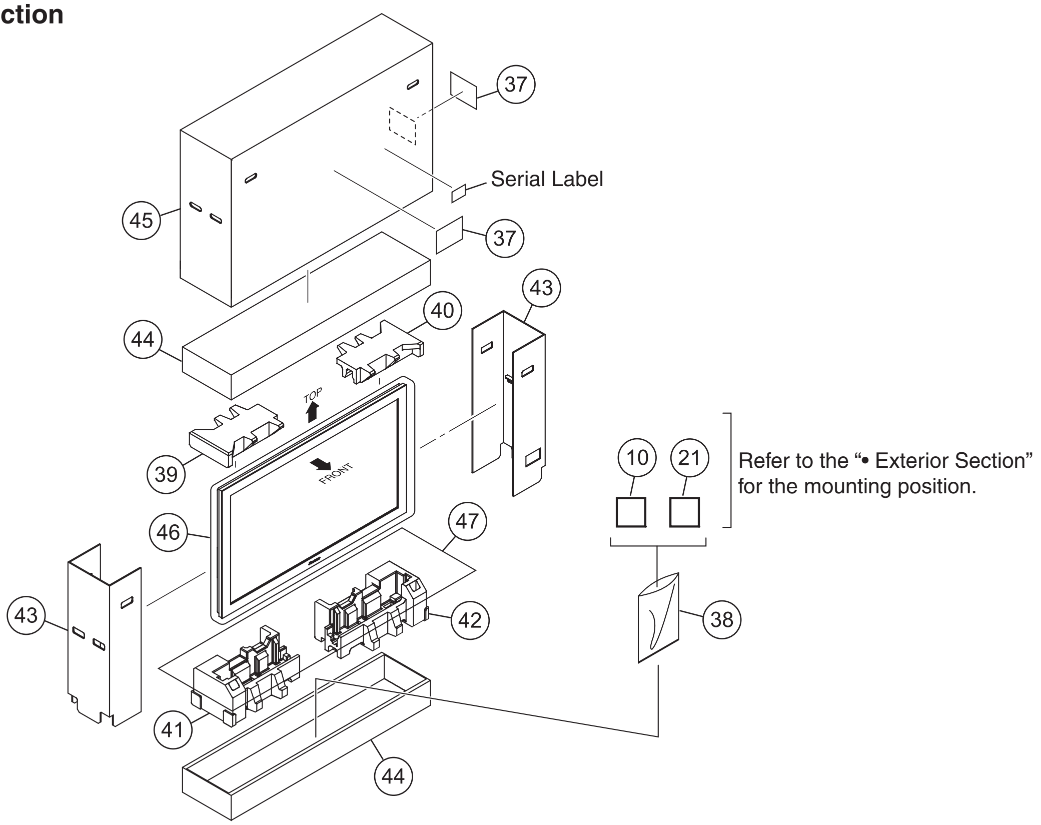
● Packing Section



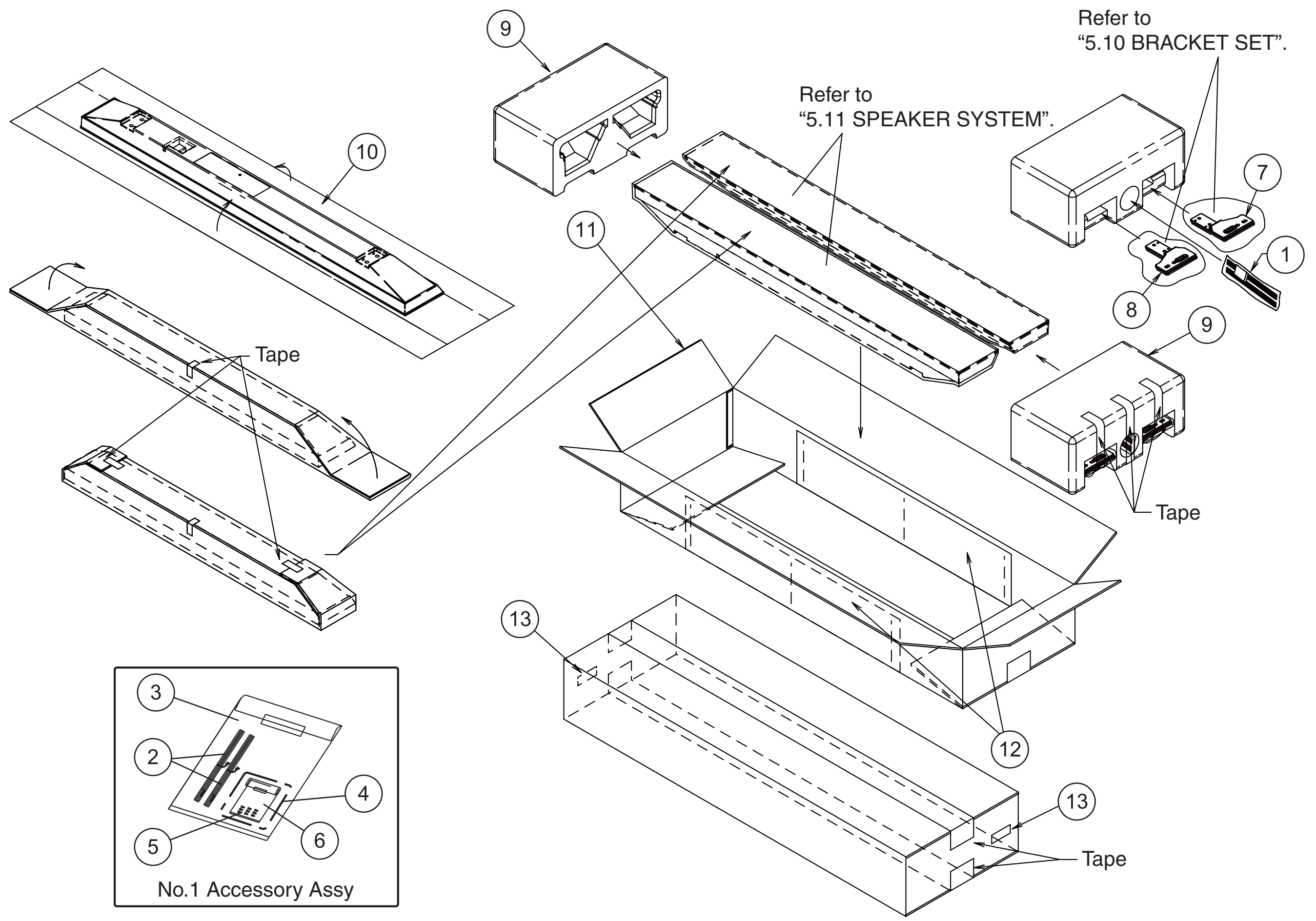
Refer to the "• Exterior Section" for the mounting position.

PDP SERVICE ASSY PARTS LIST

Mark	No.	Description	Part No.
NSP	1	P. Chassis (609FE) Assy	AWU1344
	2	Sub Frame Assy	ANA2127
	3	F. Chassis VL Assy	ANA2184
	4	F. Chassis VR Assy	ANA2128
	5	F. Chassis HT Assy	ANA2132
	6	F. Chassis HB Assy	ANA2133
	7	Plate X	ANG3132
⚠	8	Address Heatsink S	ANH1704
⚠	9	Address Heatsink L	ANH1705
	10	Ferrite Core Holder	AEC1818
	11	PCB Spacer (Reuse)	AEC2122
	12	Address Silicon A (508)	AEH1146
	13	Address Silicon C	AEH1156
	14	Inner Grip Assy	AMR3434
	15	Front Bezel Support	AMR3755
	16	F. Chassis H Guide	AMR3756
	17	Support Bracket	AMR3762
	18	Address Gasket	ANK1947
	19	Front Gasket H	ANK1960
	20	Front Gasket V	ANK1961
	21	Gasket (10 x 10 x 80)	ANK1974
NSP	22	Front Bezel (609SERV)	AMB3106
	23	Rear Case Assy 60	ANE1686
NSP	24	Drive Voltage Label	ARW1097
	25	• • • • •	
	26	• • • • •	
	27	Screw	ABA1351
	28	Screw (M3 x 6) SN	ABA1366
	29	Screw (3 x 25 P)	ABA1380
	30	Screw	ABZ30P080FTC
	31	Screw	AMZ30P060FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	TBZ40P060FTC
	35	• • • • •	
	36	• • • • •	
	37	Caution Label	AAX3031
	38	Vinyl Bag S	AHG1338
	39	Pad (609 T-L)	AHA2722
	40	Pad (609 T-R)	AHA2723
	41	Pad (609 B-L)	AHA2724
	42	Pad (609 B-R)	AHA2725
	43	Sub Carton LR (609E)	AHC1110
	44	Under Carton (609E)	AHD3666
	45	Upper Carton (609SERV)	AHD3724
	46	Protect Sheet	AHG1401
	47	Mirror Mat	AHG1402

5.9 SPEAKER SYSTEM (PACKING)

SPEAKER SYSTEM : SMW2026

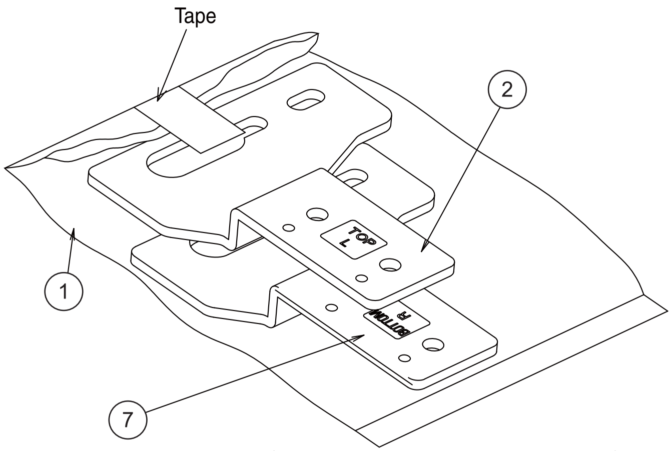

9
Refer to
“5.10 BRACKET SET”.
Refer to
“5.11 SPEAKER SYSTEM”.
10
7
11
1
8
9
Tape
Tape
13
12
13
Tape
3
2
4
5
6
No.1 Accessory Assy

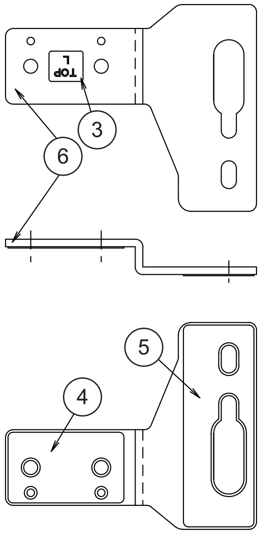
SPEAKER SYSTEM (PACKING) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	1..Accessory Set	SME3855
	2	2..Speaker Cable	SDS1204
	3	2..Polyethylene Bag S1	SHL1439
NSP	4	2..Screws Set	SME3852
	5	3..Speaker Mounting Screw	SBA1292
	6	3..Polyethylene Bag S0	SHL1438
NSP	7	Bracket Set	SME3829
NSP	8	Bracket Set	SME3830
	9	Protector	SHA2606
	10	Protection Sheet S4	SHC1865
	11	Packing Case	SHG2824
NSP	12	Inner Carton Board	SHB1184
NSP	13	Label Serial	SRW1112

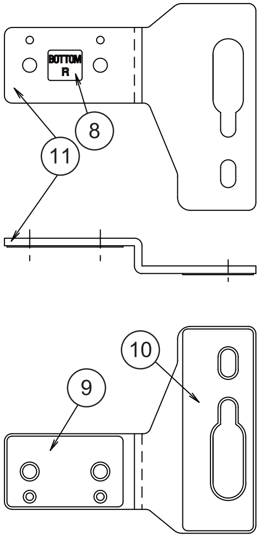
5.10 BRACKET SET

[1] BRACKET SET (SME3829)


Tape
2
TOP
L
BOTTOM
R
1
7

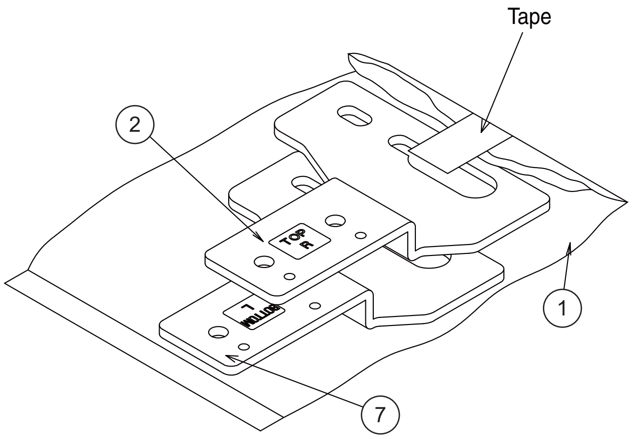


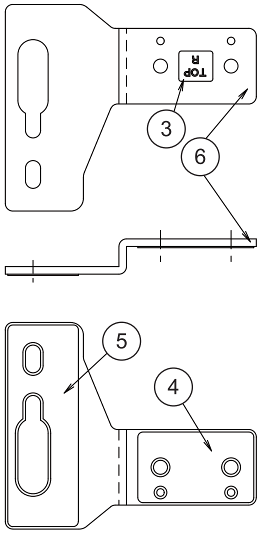
No.2 BRACKET ASSY (L-TOP)


BOTTOM
R
8
11
10
9

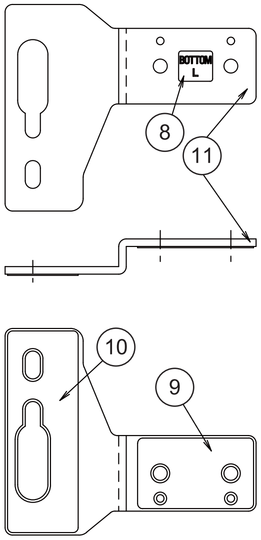
No.7 BRACKET ASSY (R-BTM)

[2] BRACKET SET (SME3830)


Tape
2
TOP
R
BOTTOM
L
1
7



No.2 BRACKET ASSY (R-TOP)


BOTTOM
L
8
11
10
9

No.7 BRACKET ASSY (L-BTM)

BRACKET SET PARTS LIST (SME3829)

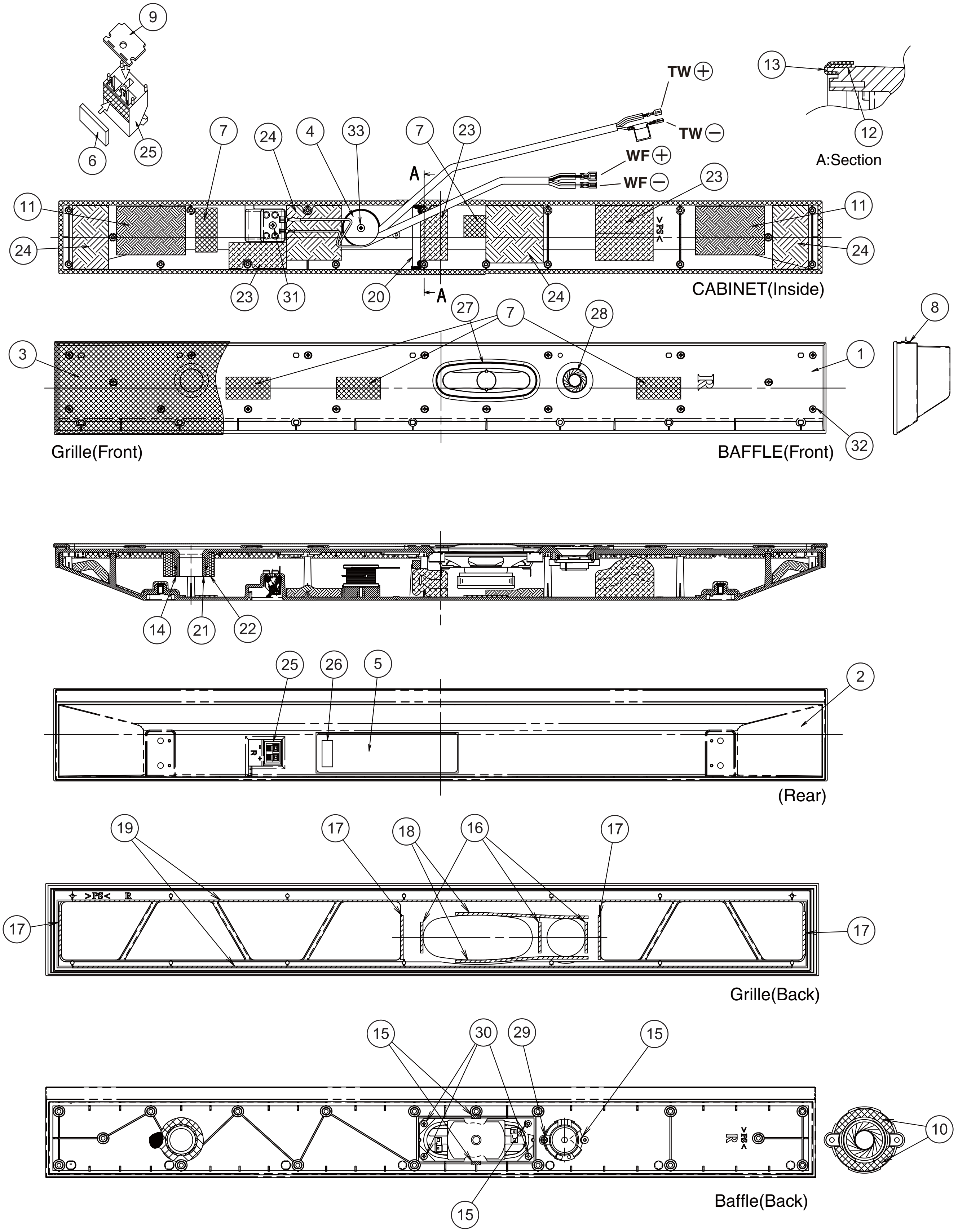
Mark	No.	Description	Part No.
	1	Polyethylene Bag S1	SHL1372
	2	1..Bracket Assy (L-Top)	SXG1166
NSP	3	2..Label (L-Top)	SAK6005
	4	2..Gasket	SED1172
	5	2..Gasket	SED1189
NSP	6	2..Bracket L-Top	SNA1499
	7	1..Bracket Assy (R-BTM)	SXG1169
NSP	8	2..Label (R-BOTTOM)	SAK6006
	9	2..Gasket	SED1172
	10	2..Gasket	SED1189
NSP	11	2..Bracket L-Top	SNA1499

BRACKET SET PARTS LIST (SME3830)

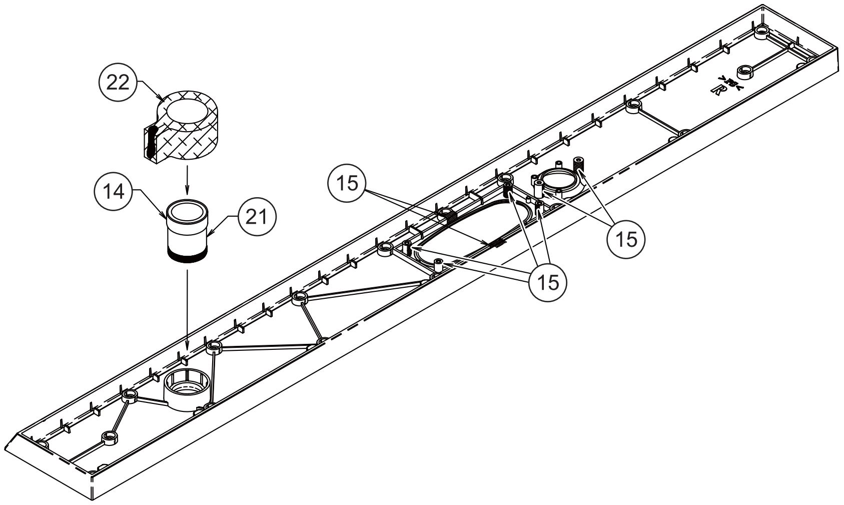
Mark	No.	Description	Part No.
	1	Polyethylene Bag S1	SHL1372
	2	1..Bracket Assy (R-TOP)	SXG1167
NSP	3	2..Label (R-TOP)	SAK6007
	4	2..Gasket	SED1172
	5	2..Gasket	SED1190
NSP	6	2..Bracket R-Top	SNA1500
	7	1..Bracket Assy (L-BTM)	SXG1168
NSP	8	2..Label (L-BOTTOM)	SAK6004
	9	2..Gasket	SED1172
	10	2..Gasket	SED1190
NSP	11	2..Bracket R-Top	SNA1500

5.11 SPEAKER SYSTEM

This product appearance shows Rch.
Lch is symmetrical to center line.


9
6
25
13
12
A:Section
TW⊕
TW⊖
WF⊕
WF⊖
7
24
4
33
7
23
23
11
11
24
24
A
A
>PS<
23
31
20
24
CABINET(Inside)
27
7
28
8
3
1
R
32
Grille(Front)
BAFFLE(Front)
14
21
22
25
26
5
2
R +
(Rear)
19
17
18
16
17
17
17
>PS< R
Grille(Back)
15
30
29
15
10
>PS< R
15
Baffle(Back)

BAFFLE



CS ASSY PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Baffle(L)	SNK3008
NSP	1	Baffle(R)	SNK3009
NSP	2	1..Cabinet Assy L	SXG1160
NSP		2..Insert Nut M5	SBN1073
NSP		2..Cabinet (L)	SNK3010
NSP	2	1..Cabinet Assy R	SXG1161
NSP		2..Insert Nut M5	SBN1073
NSP		2..Cabinet (R)	SNK3011
	3	1..Grille (L)	SMG1895
NSP		2..Grille Cloth	SAS1637
NSP		2..Grille Frame (L)	SMH1131
	3	1..Grille (R)	SMG1896
NSP		2..Grille Cloth	SAS1637
NSP		2..Grille Frame (R)	SMH1132
	4	1..Network Assy	SWN1794
		2..Capacitor 1.5	SCE1034
		2..Choke Coil 0.56	STH1270
NSP	5	Model Label (L)	SAN4038
NSP	5	Model Label (R)	SAN4039
NSP	6	Gasket	SEB1299
NSP	7	Gasket	SEB1300
NSP	8	Blinder	SEB1332
NSP	9	Gasket	SEC2074
	10	Gasket	SEC2083
NSP	11	Gasket	SEC2163
NSP	12	Gasket	SEC2203
NSP	13	Gasket	SEC2207
NSP	14	Gasket	SEC2229
NSP	15	Felt	SED1130
	16	Tape	SEH1099
	17	Tape	SEH1115
	18	Tape	SEH1121
	19	Tape	SEH1133
NSP	20	MDF Bar	SLX1173
NSP	21	Paper Tube 26	SMR1410
NSP	22	Acoustic Absorbent	SMT1331
NSP	23	Acoustic Absorbent	SMT1333
NSP	24	Acoustic Absorbent	SMT1362
	25	1..Input Terminal	SKX1098
NSP		2..Spring	SBH1003
NSP		2..Terminal	SKF1064
NSP		2..Terminal	SKF1065
NSP		2..Case	SNK2909
NSP		2..Lever (Black)	SNK2910
NSP		2..Lever (Red)	SNK2911
NSP	26	Label Serial	SRW1111
	27	Speaker	H132DC65-53D
	28	Speaker	FK26AP32-58H
	29	Screw	BPZ30P080FTC
	30	Screw	BPZ35P080FTC
	31	Screw	BPZ35P120FTC
	32	Screw	BPZ35P140FTB
	33	Screw	BPZ40P350FTC

6. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10^1 → 561 ······ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47 kΩ → 47 × 10^3 → 473 ······ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → R50 ······ RN2H$\boxed{R}\boxed{5}\boxed{0}$K
1 Ω → 1R0 ······ RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10^1 → 5621 ······ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

- *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
IC 301 (A, 91, 111) IC NJM2068V

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1..P. CHASSIS (609F) ASSY		AWU1344
NSP	2..60F ADDRESS ASSY		AWV2539
NSP	3..60F ADDRESS L ASSY		AWW1341
NSP	3..60F ADDRESS S ASSY		AWW1342
NSP	2..60F SCAN ASSY		AWV2542
NSP	3..60F SCAN A ASSY		AWW1343
NSP	3..60F SCAN B ASSY		AWW1344
NSP	3..60F SCAN C ASSY		AWW1345
NSP	3..60F SCAN D ASSY		AWW1346
NSP	1..60F DIGITAL ASSY		AWV2538
	2..60F DIGITAL ASSY		AWW1339
	2..SENSOR ASSY		AWW1340
	1..60F X DRIVE ASSY		AWV2540
	1..60F Y DRIVE ASSY		AWV2541
NSP	1..FUKUGO (US R) ASSY		AWV2550
	2..IO AUDIO ASSY (US R)		AWW1353
	2..SIDE IO AUDIO ASSY (US R)		AWW1357
	2..PC ASSY (US R,EU SD)		AWW1360
	2..SIDE KEY ASSY		AWW1361
	2..LED ASSY		AWW1362
	2..IR ASSY		AWW1363
	2..FAN CONNECT ASSY		AWW1364
	2..RLS ASSY		AWW1365
	2..POWER SW ASSY		AWW1366
⚠NSP	1..MAIN ASSY (US)		AWV2573
	2..MAIN ASSY (US)		AWW1371
	2..SIDE HDMI ASSY		AWW1372
⚠	1..POWER SUPPLY UNIT		AXY1201

Unit Name: 60F ADDRESS L ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	1601		PEE005B
IC	1701		TND307TD
Q	1711,1721,1731,1741		RJM1001DSP
Q	1791		RN1901
Q	1792		2SA1576A
D	1701		1SS302
D	1711,1721,1731,1741		UDZS15(B)
D	1712,1722,1732,1742		RF05VA2S
D	1713,1714,1723,1724		RF04UA2D
D	1733,1734,1743,1744		RF04UA2D

MISCELLANEOUS

Mark	No.	Description	Part No.
L	1601-1603	CHIP SOLID INDUCTOR	QTL1013
L	1711,1721,1731,1741	INDUCTOR	ATH1233
CN	1601	CONNECTOR	AKM1289
CN	1602	26P CONNECTOR	AKM1397

RESISTORS

Mark	No.	Description	Part No.
R	1601-1605		RS1/16SS1000F
R	1606-1629,1632,1638		RS1/16SS470J
R	1630,1631,1634,1640		RS1/16SS220J
R	1636		RS1/16SS330J
R	1641,1644,1646		RS1/16SS220J
R	1642,1648		RS1/16SS470J
R	1650		RS1/16SS472J
R	1652,1653,1662,1663		RS1/16SS0R0J
R	1672,1673,1682,1683		RS1/16SS0R0J
Other Resistors			RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	1602,1607,1609		CKSRYB105K6R3
C	1603-1606		CKSRYB104K16
C	1611		CKSSYB102K50
C	1652,1662,1672,1682		ACG1105
C	1653,1663,1673,1683		CKSSYB104K10
C	1654,1674		CCSSCH680J50
C	1664,1684		CCSSCH220J50
C	1701		CKSQYB105K16
C	1702		ACG1154
C	1711,1721,1731,1741		ACG1137
C	1712,1722,1732,1742		ACG1123

Unit Name: 60F ADDRESS S ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	1801		PEE005B
IC	1901		TND307TD
Q	1911,1921,1931		RJM1001DSP
Q	1991		RN1901
Q	1992		2SA1576A

Mark	No.	Description	Part No.
	D 1901		1SS302
	D 1911,1921,1931		UDZS15(B)
	D 1912,1922,1932		RF05VA2S
	D 1913,1914,1923,1924		RF04UA2D
	D 1933,1934		RF04UA2D

MISCELLANEOUS

	L 1801-1803	CHIP SOLID INDUCTOR	QTL1013
	L 1911,1921,1931	INDUCTOR	ATH1233
	CN 1801	CONNECTOR	AKM1289
	CN 1802	26P CONNECTOR	AKM1397

RESISTORS

	R 1801-1805		RS1/16SS1000F
	R 1806-1823,1832,1836		RS1/16SS470J
	R 1830,1831,1840,1841		RS1/16SS220J
	R 1834,1844,1846		RS1/16SS330J
	R 1842		RS1/16SS470J
	R 1850		RS1/16SS472J
	R 1852,1853,1862,1863		RS1/16SS0R0J
	R 1872,1873		RS1/16SS0R0J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C 1802,1807,1809		CKSRYB105K6R3
	C 1803-1806		CKSRYB104K16
	C 1811		CKSSYB102K50
	C 1852,1862,1872		ACG1105
	C 1853,1863,1873		CKSSYB104K10
	C 1854,1874		CCSSCH220J50
	C 1864		CCSSCH680J50
	C 1901		CKSQYB105K16
	C 1902		ACG1154
	C 1911,1921,1931		ACG1137
	C 1912,1922,1932		ACG1123

Unit Name: 60F SCAN A ASSY

SEMICONDUCTORS

	IC 2801-2804		AN16184A
	D 2801-2806		MC2850-11
	D 2882		RB551V-30

MISCELLANEOUS

	CN 2801	3PIECE CONNECTOR 15P	AKP1328

RESISTORS

	R 2815,2825,2835,2845		RAB4C221J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C 2811,2821,2831,2841		ACG1125
	C 2813,2823,2833,2843		CKSRYB105K6R3
	C 2815,2816,2820,2825		CCSRCH220J50
	C 2817-2819,2827-2829		CCSRCH151J50
	C 2826,2830,2835,2836		CCSRCH220J50
	C 2837-2839,2847-2850		CCSRCH151J50
	C 2840,2845,2846		CCSRCH220J50

Unit Name: 60F SCAN B ASSY

SEMICONDUCTORS

	IC 2901-2904		AN16184A
	D 2901-2906		MC2850-11
	D 2982		RB551V-30

Mark	No.	Description	Part No.

MISCELLANEOUS

	CN 2901,2902	3PIECE CONNECTOR 15P	AKP1328

RESISTORS

	R 2915,2925,2935,2945		RAB4C221J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C 2911,2921,2931,2941		ACG1125
	C 2913,2923,2933,2943		CKSRYB105K6R3
	C 2915,2916,2920,2925		CCSRCH220J50
	C 2917-2919,2927-2929		CCSRCH151J50
	C 2926,2930,2935,2936		CCSRCH220J50
	C 2937-2939,2947-2949		CCSRCH151J50
	C 2940,2945,2946,2950		CCSRCH220J50

Unit Name: 60F SCAN C ASSY

SEMICONDUCTORS

	IC 3001-3004		AN16184A
	D 3001-3006		MC2850-11
	D 3082		RB551V-30

MISCELLANEOUS

	CN 3001,3002	3PIECE CONNECTOR 15P	AKP1328

RESISTORS

	R 3015,3025,3035,3045		RAB4C221J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C 3011,3021,3031,3041		ACG1125
	C 3013,3023,3033,3043		CKSRYB105K6R3
	C 3014-3016,3024-3026		CCSRCH220J50
	C 3017-3019,3027-3029		CCSRCH151J50
	C 3034-3036,3044-3046		CCSRCH220J50
	C 3037-3039,3047-3049		CCSRCH151J50

Unit Name: 60F SCAN D ASSY

SEMICONDUCTORS

	IC 3101-3104		AN16184A
	D 3101-3106		MC2850-11
	D 3182		RB551V-30

MISCELLANEOUS

	CN 3101	3PIECE CONNECTOR 15P	AKP1328

RESISTORS

	R 3115,3125,3135,3145		RAB4C221J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C 3111,3121,3131,3141		ACG1125
	C 3113,3123,3133,3143		CKSRYB105K6R3
	C 3114,3117-3119		CCSRCH151J50
	C 3115,3116,3124-3126		CCSRCH220J50
	C 3127-3129,3137-3139		CCSRCH151J50
	C 3134-3136,3144-3146		CCSRCH220J50
	C 3147-3149		CCSRCH151J50

Unit Name: 60F DIGITAL ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
	3202	HEAT SINK B	ANH1645
	3203	THERMAL SHEET B	AEB1417

Block Name: MAIN I/F BLOCK

SEMICONDUCTORS

	Q 3201		RN1901

MISCELLANEOUS

⚠	L 3201	CHIP BEEDS FILTER	BTX1042
	CN 3201	50P CONNECTOR	AKM1399
	CN 3202	40P CONNECTOR	AKM1398
	CN 3203	6PIN CONNECTOR	AKM1405

RESISTORS

	R 3201-3207,3211-3218		RAB4CQ100J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 3201		ACG1150
	C 3202		CKSSYB102K50
	C 3203		CCSSCH101J50

Block Name: SQ ASIC BLOCK

SEMICONDUCTORS

	IC 3301		PEG383B
	IC 3303		TC7SH08FUS1
	IC 3304		TC7SH32FUS1

MISCELLANEOUS

⚠	L 3301,3302	CHIP BEEDS FILTER	BTX1042
⚠	L 3303	CHIP BEEDS FILTER	BTX1039
⚠	L 3304-3307	CHIP BEEDS FILTER	BTX1042
⚠	X 3301	CRYSTAL (27 MHz)	ASS1215
	CN 3301	CONNECTOR	CKS4835

RESISTORS

	R 3302,3307-3310		RAB4CQ101J
	R 3306,3386		RAB4CQ103J
	R 3313		RS1/16SS1000F
	R 3314-3319		RAB4CQ100J
	R 3321-3325		RAB4CQ470J
	R 3332-3338,3344-3346		RAB4CQ220J
	R 3351-3359,3361-3367		RAB4CQ220J
	R 3371-3377		RAB4CQ220J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 3301-3306,3309,3310		CKSSYB104K10
	C 3307,3311,3331-3334		ACG1150
	C 3312-3330,3335,3336		CKSSYB104K10
	C 3337		CCSRCH471J50
	C 3338,3340		ACG1149
	C 3339,3341,3342		CKSSYB104K10
	C 3343		ACG1150
	C 3345-3355,3357-3386		CKSSYB104K10
	C 3356,3392		CCSRCH470J50
	C 3387-3389		CKSRYB105K6R3
	C 3390,3391,3393-3395		CKSSYB104K10

Block Name: LVDS TX BLOCK 60

SEMICONDUCTORS

	IC 3401		PEG478A

Mark	No.	Description	Part No.

MISCELLANEOUS

⚠	L 3401-3407	CHIP BEEDS FILTER	BTX1042

RESISTORS

	R 3401		RS1/16SS5601F
	R 3498		RS1/10SR221J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 3401,3402		ACG1149
	C 3403-3410,3415-3420		CKSSYB104K10
	C 3411,3413,3421,3435		ACG1150
	C 3423-3434,3436-3442		CKSSYB104K10
	C 3443,3499		ACG1150
	C 3444-3448,3451-3457		CKSSYB104K10

Block Name: ADDRESS CN BLOCK

SEMICONDUCTORS

	Q 3501,3504		DTC143EUA
	Q 3502,3503,3506,3508		RN1901
	D 3501-3504		DAN202U

MISCELLANEOUS

	CN 3501-3508,3510	26P CONNECTOR	AKM1397
	CN 3509	50P CONNECTOR	AKM1399

RESISTORS

	R 3502,3504,3507		RAB4CQ101J
	R 3503,3505		RAB4CQ102J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 3501-3508,3510-3512		CKSSYB102K50
	C 3514,3516,3518-3520		CKSSYB102K50

Block Name: MODEULE UCOM BLOCK

SEMICONDUCTORS

	IC 3602		BR24L04FJ-W
	IC 3604		TC74VHC08FTS1
	IC 3605		MB88347LPFV-GBND
	IC 3607		TC74VHC123AFTS1
	IC 3608		TC74VHC126FTS1
	IC 3609,3610		TC74LCX541FTS1
	IC 3611		PST3628UR
	Q 3602		2SJ461A
	Q 3604		RN1902
	D 3601-3604		DAN202U
	D 3606-3608,3612		1SS352
	D 3609,3611		SML-310MT
	D 3610		SML-D12V8W

MISCELLANEOUS

⚠	X 3601	CERAMIC OSCILLATOR	CSS1616
	CN 3601	5PIN CONNECTOR	AKM1418
	CN 3602,3603	CONNECTOR	CKS4828

RESISTORS

	R 3603,3608		RAB4CQ222J
	R 3604,3607		RAB4CQ101J
	R 3606,3615		RAB4CQ470J
	R 3639,3666		RAB4CQ103J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 3601,3603-3606		CKSSYB104K10
	C 3602,3615,3635,3636		CCSSCH101J50
	C 3608-3612,3614,3618		CKSSYB104K10
	C 3619		CKSRYB103K50
	C 3620-3622		CKSRYB105K6R3
	C 3630		CKSSYB104K10
	C 3631		CKSRYB472K50
	C 3632-3634		CKSSYB102K50

Block Name: DD CON BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 3801		BD8606FV
	IC 3802		TC74VHC08FTS1
	IC 3803		S-1170B18UC-OTD
	IC 3804		BD12KA5WFP
	IC 3805		PST3628UR
	IC 3808		PQ200WNA1ZPH
	Q 3801,3803		DTC144EUA
	Q 3802		RN1901
	Q 3804		DTC143EUA
	Q 3841,3861,3881		SP8M4
	D 3801,3802,3882		1SS352
	D 3841,3861,3881		RB060M-30

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	L 3801	CHIP BEEDS FILTER	BTX1039
⚠	L 3841,3881	INDUCTOR	ATH1235
⚠	L 3861	INDUCTOR	BTH1110
	CN 3801	10PIN CONNECTOR	AKM1409
	CN 3802	CONNECTOR	AKM1277
	FU 3801	CHIP FUSE	AEK1087

RESISTORS

Mark	No.	Description	Part No.
	R 3801,3802		RAB4CQ101J
	R 3815		RS1/10SR4301D
	R 3816		RS1/10SR1301D
	R 3828		RS1/10SR2702D
	R 3832		RS1/10SR221J
	R 3836		RS1/16SS2202F
	R 3837,3838		RS1/16SS3901F
	R 3841,3843,3863		RS1/10SR3302D
	R 3844		RS1/10SR4702D
	R 3845		RS1/10SR2002D
	R 3861		RS1/10SR1503D
	R 3862,3882		RS1/10SR3001D
	R 3864,3883		RS1/10SR3902D
	R 3865		RS1/10SR1003D
	R 3881		RS1/10SR1203D
	R 3885		RS1/10SR7502D
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 3801-3804,3808,3821		CKSSYB102K50
	C 3805,3806		CKSSYB104K10
	C 3807		CKSRYB472K50
	C 3809		CKSRYB104K16
	C 3810,3811,3841,3842		ACG1150
	C 3812,3814,3824		CKSRYB105K6R3
	C 3813,3815,3843,3847		ACG1149
	C 3817,3825,3826		DCH1165
	C 3818		CCSSCH101J50
	C 3820,3844		CCSRCH221J50
	C 3845,3888		CKSRYB682K50
	C 3848		CKSRYB153K50
	C 3861,3862,3881,3882		ACG1150
	C 3863,3867,3883,3887		ACG1149
	C 3864		CCSRCH470J50
	C 3865		CKSRYB152K50
	C 3868		CKSRYB103K50
	C 3884		CCSRCH620J50
	C 3885		CKSRYB182K50

Unit Name: SENSOR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 3901		MM1522XU
	IC 3902		BR24L02FJ-W
	Q 3901		HN1B04FU

MISCELLANEOUS

Mark	No.	Description	Part No.
	CN 3901	5PIN CONNECTOR	AKM1404

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 3901,3902		CKSRYB105K6R3
	C 3905,3906		CKSSYB104K10

Unit Name: 60F X DRIVE ASSY

Block Name: 60X LOGIC BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 1001		TC74ACT541FT
	IC 1002		TC74ACT540FT
	D 1002,1005-1008		1SS352
	D 1003,1051,1055		MC2848-11

MISCELLANEOUS

Mark	No.	Description	Part No.
	K 1008-1010	TEST PIN	AKX1061
	VR 1002	SEMI FIXED RESISTOR	CCP1517
	CN 1001	26P CONNECTOR	AKM1397

RESISTORS

Mark	No.	Description	Part No.
	R 1001,1003		RAB4C470J
	R 1002,1004,1007,1025		RAB4C472J
	R 1012		RS1/8SQ0R0J
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 1001		CCSRCH331J50
	C 1003,1004		CKSRYB104K25
	C 1005		ACH1479
	C 1006		CCSRCH680J50

Block Name: 60X RESONANCE BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 1101		PS9818-1(P)
	IC 1104,1105		TND307TD
	IC 1106		PS2701A-1(LP)
	Q 1101		2SC2412K
	Q 1102,1103		2SC4081
	Q 1104,1105		QSZ2
	Q 1108,1112,1116,1119		GT30F122
	D 1101		UDZS5R6(B)
	D 1102		UDZS8R2(B)
	D 1106,1110,1123,1127		RF2001T4S

Mark	No.	Description	Part No.
	D 1113,1116,1128,1129		RF101L4S
	D 1114		RF081M2S

MISCELLANEOUS

	L 1101	INDUCTOR	ATH1247
	L 1103	INDUCTOR	ATH1250
	L 1105,1106	CHIP COIL	BTH1118
	1101	SCREW	PMH30P080FTC

RESISTORS

	R 1103,1109,1144,1150		RS1/8SQ4R7J
	R 1104,1110,1145,1151		RS1/8SQ103J
	R 1116,1118,1154		ACN1116
	R 1136		RS1/10SR4702F
	R 1137		RS1/10SR1502F
	R 1138,1152,1153		RS1/8SQ0R0J
		Other Resistors	RS1/10SR###J

CAPACITORS

	C 1101		ACH1478
	C 1102-1105		ACE1178
	C 1106,1113,1114,1116		CKSRYB104K25
	C 1107,1110		CKSQYB474K25
	C 1112		ACG1126
	C 1115		ACH1406
	C 1117		CKSRYB104K50
	C 1118		CCG1186

Block Name: 60X SUS BLCOK

SEMICONDUCTORS

	IC 1204		PS9818-2(P)
	IC 1206		PQ050DNA1ZPH
	IC 1207,1209		TND307TD
	Q 1201		R3007AND
	Q 1202		DTC123TKA
	Q 1203		2SD1664
	Q 1204,1205,1207,1208		QSZ2
	Q 1209		DTC143EK
	Q 1212		2SK3498
	Q 1218,1219,1221-1223		RJH3044DPP
	Q 1225,1227		QSZ2
	Q 1226		RJH3044DPP
	D 1201		UDZS8R2(B)
	D 1202		UDZS5R6(B)
	D 1207		RF101L4S
	D 1208,1216-1218		1SS352
	D 1209		RF081M2S

MISCELLANEOUS

	L 1201,1202	CHIP INDUCTOR	BTH1134
	L 1205,1206	INDUCTOR (1.0 uH)	ATH1186
	K 1201-1205	TEST PIN	AKX1061
	KN 1201-1204,1206	GROUND PLATE	ANK1949
	KN 1207,1211-1213	GROUND PLATE	ANK1949
	KN 1215,1216	GROUND PLATE	ANK1949
	CN 1201	CONNECTOR	B11B-EH
	CN 1205,1206	PLUG(5P)	KM200NA5
	1201	SCREW	PMH30P080FTC

RESISTORS

	R 1203,1204,1210,1211		RS1/8SQ4R7J
	R 1205		RST1/2SP1R8J
	R 1212,1290		RS1/8SQ0R0J
	R 1213,1247,1259,1260		RS1/8SQ4R7J
	R 1216		ACN1127
	R 1217		RST1/2SP2R2J
	R 1277		ACN1120
		Other Resistors	RS1/10SR###J

CAPACITORS

	C 1201,1202,1271		ACH1478
	C 1204		ACH1479
	C 1206,1207,1228,1229		CKSRYB104K25
	C 1210		ACH1480
	C 1212,1213,1216,1218		CKSQYB474K25
⚠	C 1214,1215,1221		ACG1126
	C 1219,1230,1274		CKSQYB474K25
⚠	C 1222,1225,1227		CCG1186
	C 1232		CCSRCH221J50
	C 1234,1246		CKSRYB104K25
	C 1240,1241,1243		ACH1424
	C 1244,1245		ACH1477
	C 1258,1259,1261		ACE1178
	C 1278-1280		CKSRYB102K50
	C 1281		CKSRYB103K50

Block Name: 60X OFFSET BLCOK

SEMICONDUCTORS

	IC 1301		PS9818-2(P)
	IC 1307,1308		TND307TD
	Q 1301-1304		R3007AND
	D 1304,1306		RF101L4S
	D 1308,1309		1SS302
	D 1310,1311		UDZS16(B)

RESISTORS

	R 1304,1308		RS1/8SQ4R7J
	R 1312		ACN1108
	R 1313,1353		ACN1117
	R 1317,1319		RS1/8SQ101J
	R 1320,1322		RS1/8SQ100J
		Other Resistors	RS1/10SR###J

CAPACITORS

	C 1301		ACH1478
	C 1302,1303		ACH1483
	C 1306		CKSQYB474K25
	C 1310,1312		CKSRYB104K25

Block Name: 60X D-D BLCOK

SEMICONDUCTORS

	IC 1401,1402		MM1431AN
	IC 1403,1404		BA2904FVM
	Q 1402		2SD1898
	Q 1403,1405		2SD27240
	Q 1404,1406		2SD2568
	Q 1407		HN1C01FU
	Q 1408,1409		2SC4081
	D 1401		1SS301
	D 1402,1407,1416,1423		RF081M2S
	D 1404,1405,1424,1425		1SS352
	D 1406		CRF03
	D 1408		UDZS5R6(B)
	D 1409		UDZS5R1(B)

Mark	No.	Description	Part No.
D	1410		MC2848-11

MISCELLANEOUS

Mark	No.	Description	Part No.
VR	1401,1402	SEMI-FIXED VR (10 K)	DCP1089
T	1401	TRANSFORMER	ATK1166

RESISTORS

Mark	No.	Description	Part No.
R	1402,1453		RST1/2SP224J
R	1403,1408,1469-1472		RST1/2SP473J
R	1407		RS1/4SA224J
R	1418,1468		RS1/8SQ0R0J
R	1424,1425,1427,1428		RS1/8SQ1003F
R	1431		RS1/10SR2401F
R	1436,1446		RS1/10SR6801F
R	1437,1447		RS1/10SR1002F
R	1438,1448		RS1/10SR2202F
R	1439		RS1/10SR6201F
R	1441		RS1/10SR1502F
R	1449		RS1/10SR5601F
R	1455,1456		RST1/2SP100J
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	1401,1409		ACH1428
C	1402		ACH1480
C	1403,1422		CKSRYB103K50
C	1405		CKSQYB225K10
C	1406		ACH1464
C	1408		ACH1473
C	1410-1415,1421		CKSRYB104K25
C	1416		CKSRYB105K6R3

Unit Name: 60F Y DRIVE ASSY

Block Name: 60Y LOGIC BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	2001,2002		TC74ACT541FT
IC	2004,2005		TC74ACT540FT
D	2002,2004,2006		1SS352
D	2003,2011-2015		1SS301
D	2016-2018		1SS352

MISCELLANEOUS

Mark	No.	Description	Part No.
K	2011,2017	TEST PIN	AKX1061
VR	2001,2002	SEMI FIXED RESISTOR	CCP1517
CN	2001	50P CONNECTOR	AKM1399

RESISTORS

Mark	No.	Description	Part No.
R	2001,2002		RAB4C220J
R	2003,2004,2007,2009		RAB4C470J
R	2005,2006,2008,2010		RAB4C472J
R	2011,2012		RAB4C470J
R	2013,2014		RAB4C472J
R	2015,2016		RAB4C101J
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	2001		ACH1479
C	2003		CCSRCH680J50
C	2004-2006,2009		CKSRYB104K25
C	2007,2008		CCSRCH331J50

Block Name: 60Y RESONANCE BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	2101		PS9818-1(P)
IC	2102		PS2701A-1(LP)
IC	2103,2104		TND307TD
Q	2101		2SC2412K
Q	2102,2103		2SC4081
Q	2104,2105		QSZ2
Q	2106-2109		RJP6065DPN
Q	2111,2113		RG4030CLX
D	2101		UDZS5R6(B)
D	2102		UDZS8R2(B)
D	2104,2105		RF2001T4S
D	2106,2107		RF2001T6S
D	2112,2113		RF2L6S
D	2115,2116		RF101L4S
D	2117		RF081M2S

MISCELLANEOUS

Mark	No.	Description	Part No.
L	2101	INDUCTOR	ATH1249
L	2103	INDUCTOR	ATH1250
L	2105,2106	CHIP COIL	BTH1118
	2104	SCREW	PMH30P080FTC

RESISTORS

Mark	No.	Description	Part No.
R	2101,2103,2105,2106		RS1/8SQ2R2J
R	2102,2104,2110,2114		RS1/8SQ103J
R	2112,2113		RS1/8SQ2R2J
R	2115,2116		ACN1118
R	2117		ACN1116
R	2119		RST1/2SP4R7J
R	2126,2133		RS1/8SQ0R0J
R	2130		RS1/10SR4702F
R	2135		RS1/10SR1502F
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	2103-2105,2119		CKSRYB104K25
C	2106,2108,2109		CKSQYB474K25
C	2107		ACG1139
C	2110		ACG1113
C	2112-2115		ACE1184
C	2118		ACH1406
C	2151		ACH1478
C	2161		CKSRYB102K50

Block Name: 60Y SUS BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	2201		PS9818-1(P)
IC	2203,2204		TND307TD
Q	2201		DTC143EK
Q	2202		DTC123TKA
Q	2203		2SD1664
Q	2204-2206,2208-2210		QSZ2
Q	2217-2219,2221-2223		RJH3044DPP
D	2201		UDZS8R2(B)
D	2202		UDZS5R6(B)
D	2204-2206		RF081M2S
D	2213,2221-2223		RF101L4S

MISCELLANEOUS

Mark	No.	Description	Part No.
	2203	SCREW	PMH30P080FTC

RESISTORS

Mark	No.	Description	Part No.
R	2202,2204,2206		RS1/8SQ2R2J
R	2209-2211		RS1/8SQ4R7J

Mark	No.	Description	Part No.
	R 2213		RST1/2SP1R8J
	R 2214,2254,2255		RS1/8SQ0R0J
	R 2215		RST1/2SP4R7J
		Other Resistors	RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2201,2202		ACH1478
⚠	C 2203,2207,2208		ACG1126
	C 2204-2206,2210,2221		CKSQYB474K25
⚠	C 2212-2214		ACG1126
	C 2216-2218,2240		CKSRYB104K25
	C 2219		CCSRCH221J50
	C 2222		CKSQYB474K25
	C 2231-2233		CKSRYB102K50

Block Name: 60Y MSK BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 2301		PS9818-2(P)
	IC 2303		PQ050DNA1ZPH
	IC 2304		TND307TD
	Q 2301		2SD1664
	Q 2302,2303		QSZ2
	Q 2304,2306,2308,2309		RJK1535DPE
	Q 2312,2314		RJK1535DPE
	Q 2321-2326,2328-2331		R5016ANJ
	Q 2333,2334		R5016ANJ
	D 2301		UDZS5R6(B)
	D 2302		1SS352
	D 2304-2306		RF081M2S

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 2301,2302	CHIP INDUCTOR	BTH1134
	L 2304,2305	INDUCTOR (1.0 uH)	ATH1186
	K 2301-2305	TEST PIN	AKX1061
	KN 2301-2308	GROUND PLATE	ANK1949
	KN 2310-2317	GROUND PLATE	ANK1949
	CN 2301	11P CONNECTOR	B11B-XASK-1
	CN 2303,2304	PLUG (5P)	KM200NA5

RESISTORS

Mark	No.	Description	Part No.
	R 2302		RS1/8SQ2R2J
	R 2303,2305,2307,2308		RS1/8SQ100J
	R 2311,2313,2320-2325		RS1/8SQ100J
	R 2327-2330,2332,2333		RS1/8SQ100J
	R 2335		RST1/2SP1R0J
		Other Resistors	RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2301-2303		ACH1424
	C 2305,2306		ACH1477
	C 2307,2312		ACH1478
	C 2308		ACH1480
	C 2309		ACH1479
	C 2314,2315		CKSQYB474K25
⚠	C 2316,2318		CCG1186
	C 2319,2321,2323,2325		CKSRYB104K25
	C 2326		CKSRYB104K25
	C 2328		CKSYB105K16
	C 2329-2331		ACE1149

Block Name: 60Y OFFSET BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 2401		PS9818-1(P)
	IC 2403,2404		PS9818-2(P)
	IC 2407-2413		TND307TD
	Q 2401,2402		2SK3458-ZK
	Q 2403		2SC2412K
	Q 2404,2405		2SD1664
	Q 2410,2411,2414-2417		QSZ2
	Q 2418		2SK3301
	Q 2419		2SK3113B-ZK
	Q 2423,2435		R4008AND
	Q 2424,2425,2427-2429		R5009ANJ
	Q 2430,2432		2SK3677-01MR
	Q 2431		R5009ANJ
	Q 2433,2434		QSZ2
	D 2401		CRF03
	D 2402-2406		1SS302
	D 2407,2409,2411		UDZS5R6(B)
	D 2408,2410,2412-2414		UDZS16(B)
	D 2415,2416,2418		EC8FS6
	D 2417		RF501B6S

RESISTORS

Mark	No.	Description	Part No.
	R 2401		ACN1127
	R 2403		ACN1126
	R 2404		ACN1121
	R 2406-2411		ACN1114
	R 2412,2413		ACN1116
	R 2414,2415		ACN1123
	R 2417,2418		RS2MMF101J
		Other Resistors	RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2401-2403,2405,2406		ACH1427
	C 2407,2408		ACH1426
	C 2410		ACH1427
	C 2412-2418		ACH1478
	C 2420,2421,2424-2429		CKSRYB104K25
	C 2433,2435-2441		CKSRYB104K25
	C 2449-2452		CKSRYB104K25

Block Name: 60Y SCAN BLCOK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 2501,2502		PS9852-2(P)
	IC 2503,2504		PS9818-2(P)
	IC 2517-2520		TC74AC540FT

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 2501	CHIP INDUCTOR	BTH1134
	L 2502	CHIP INDUCTOR	BTH1136
	CN 2501,2502	15P CONNECTOR	AKM1200

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2502		ACH1482
	C 2503		ACH1480
	C 2507,2508		ACG1132
	C 2509,2515-2517,2520		CKSRYB104K25
	C 2521,2526,2527		CKSRYB104K25
	C 2528,2529		ACH1436

Mark	No.	Description	Part No.

Block Name: 60Y MAIN D-D BLOCK 1

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 2601		MR1712-7101
	IC 2602,2603		MM1431AN
	IC 2604,2651		PS2701A-1(LP)
	IC 2606		BA2904FVM
	Q 2601,2651,2652		2SC4081
	Q 2604		2SC3425
	Q 2605		2SD2568
	Q 2606		UMH1N
	Q 2662		2SD1898
	Q 2663		HN1C01FU
	D 2601,2612,2664		1SS352
	D 2602-2604,2606,2616		CRF03
	D 2605,2607,2609,2611		RF081M2S
	D 2608,2610		CRF02
	D 2613		RF101L4S
	D 2614		UDZS8R2(B)
	D 2651,2652		UDZS33(B)
	D 2661		UDZS5R6(B)
	D 2662		1SS301
	D 2665,2666		RF081M2S
	D 2670		UDZS18(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	VR 2602	SEMI FIXED RESISTOR	CCP1518
	VR 2603	SEMI FIXED RESISTOR	CCP1517
	T 2601	TRANSFORMER	ATK1168
	T 2661	SWITCHING TRANS.	ATK1162

RESISTORS

Mark	No.	Description	Part No.
	R 2601		RST1/2SP224J
	R 2602-2608,2626		RS1/4SA224J
	R 2609		RS1MMF683J
	R 2610		RST1/2SP100J
	R 2611		RS1/8SQ100J
	R 2621		RS1/10SR4702F
	R 2623		RS1/10SR4701F
	R 2624		RS1/10SR1003F
	R 2634,2643		RS1/8SQ0R0J
	R 2641		RS1/10SR1502F
	R 2651		RS1/8SQ2202F
	R 2652,2653		RS1/8SQ3302F
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2601		CEHAT470M2A
	C 2602,2661,2662		ACH1480
	C 2603		ACH1464
	C 2605		ACG1126
	C 2606		ACH1427
	C 2607,2608		ACG1113
	C 2609,2610		CKSRYB104K25
	C 2611,2620		CKSRYB104K50
	C 2612		ACH1482
	C 2613,2615		CCSRCH102J50
	C 2614		CCSRCH101J50
	C 2616,2619		ACH1425
	C 2618		ACH1360
	C 2650,2653,2655		CKSRYB104K16
	C 2654		CCSRCH471J50
	C 2663		CKSRYB103K50
	C 2664		CKSRYB105K6R3
	C 2666		CKSQYB225K10
	C 2667		CKSYB105K25
	C 2668		ACG1105

Block Name: 60Y MAIN D-D BLCOK 2

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 2701-2703		MM1431AN
	IC 2704-2706		BA2904FVM
	IC 2761		PS2701A-1(LP)
	Q 2701		2SA1163
	Q 2702-2704		2SA1727
	Q 2705-2707		2SA1924
	Q 2708		2SC2412K
	Q 2709		2SA2005
	Q 2710,2764		2SD1898
	Q 2711		2SC2713
	Q 2761		2SA1576A
	Q 2762		UMH1N
	Q 2766		HN1C01FU
	D 2701,2702,2764		1SS301
	D 2703,2704,2766		1SS352
	D 2705		UDZS8R2(B)
	D 2767-2769		RF081M2S

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 2701	CHIP COIL	BTH1124
	VR 2702-2705	SEMI FIXED RESISTOR	CCP1517
	T 2761	CONVERTER TRANS.	ATK1156

RESISTORS

Mark	No.	Description	Part No.
	R 2701-2704,2706-2708		RS1/4SA224J
	R 2711,2712		RS1/4SA224J
	R 2713		ACN1119
	R 2714,2715,2717		RST1/2SP100J
	R 2718		RS1/10SR1202F
	R 2719		RS1/10SR4702F
	R 2722,2731		RS1/10SR1501F
	R 2724-2726,2745,2756		RS1/10SR4701F
	R 2754,2755,2757		RS1/10SR1502F
	R 2760		RS1/8SQ0R0J
	R 2771,2775		RS1/10SR4701F
	R 2778		ACN1132
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 2701,2761,2762		ACH1480
	C 2702-2704,2706-2708		CKSRYB104K25
	C 2705		ACH1406
	C 2709		ACH1472
	C 2710,2711		ACH1469
	C 2712		ACG1142
	C 2713,2764,2776		CKSRYB103K50
	C 2714		ACG1145
	C 2716,2777		CKSRYB104K25
	C 2763		ACH1481
	C 2768		CKSQYB225K10
	C 2770,2771		CKSRYB105K6R3
	C 2774		CKSRYB104K50

Mark	No.	Description	Part No.
	C 2775		BCG1069

Unit Name: IO AUDIO ASSY(US E)

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/16SS###J

Block Name: BOARD IF BLOCK(US)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D 7605,7606		UDZS8R2(B)
	D 7611		UDZS5R1(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	CN 7501	CONNECTOR 7P	AKM1377
	CN 7502	CONNECTOR	B5P-VH
	CN 7503	50P CONNECTOR	AKM1399
	CN 7504	40P CONNECTOR	AKM1398
	CN 7505	11PIN CONNECTOR	AKM1371
	CN 7506	FFC CONNECTOR 12P	AKM1385
	FU 7631	CHIP FUSE	AEK1086

RESISTORS

Mark	No.	Description	Part No.
	R 7601,7602,7609		RS1/10SR0R0J
	R 7611,7631-7633		RS1/10SR75R0F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7605,7606,7611		CKSRYB105K10
	C 7609		CKSSYB104K10

Block Name: IO 0 BLOCK(US E)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D 7708		UDZS5R1(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 7701	PINJACK(S+PJ)VERT AU	AKB1356

RESISTORS

Mark	No.	Description	Part No.
	R 7701,7702,7704,7705		RS1/10SR75R0F
	R 7710-7712		RS1/10SR75R0F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7701,7703		CKSSYB104K10
	C 7702		CKSSYB473K16
	C 7704		CKSSYB103K16
	C 7706-7715		CKSRYB105K10

Block Name: IO 1 BLOCK(US E)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7851		MAX3232CPW
	Q 7801,7802		UMD2N
	Q 7803-7805		2SD2114K
	Q 7891		HN1B04FU
	D 7851		1SS301
	TH 7891		TH05-3H103F

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7882	CHIP COIL	BTH1103
⚠	F 7801-7803,7871-7873	INDUCTOR	CTF1557
⚠	F 7886,7887	INDUCTOR	CTF1557
	JA 7801,7871,7886	JACK	VKN1449
	JA 7851	9P D-SUB SOCKET	AKP1329
	JA 7881	VERT OPT.LINK OUT	AKN1082

RESISTORS

Mark	No.	Description	Part No.
	R 7822		RAB4CQ221J
	R 7860		RAB4CQ101J
	R 7891		RS1/10SR4701F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7801		DCH1201
	C 7802,7803		CCG1205
	C 7804-7806,7871,7886		CKSSYB471K50
	C 7809-7814,7881		CKSRYB105K10
	C 7851-7855,7892		CKSSYB104K10
	C 7891		CKSSYB103K16

Block Name: POWER SUB BLOCK(US)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7901		NJM2846DL3-05
	IC 7911		PQ200WNA1ZPH
	IC 7951		NJM2846DL3-18
	IC 7961		NJM78M12DL1A
	D 7901,7911,7951,7961		1SS352

RESISTORS

Mark	No.	Description	Part No.
	R 7914		RS1/16SS4701F
	R 7915		RS1/16SS1501F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7901,7951		CKSRYB105K10
	C 7902,7952		DCH1201
	C 7911,7914		DCH1165
	C 7961,7963		CEHVAW330M25
	C 7962		CKSRYB104K25
	C 7964		CKSSYB682K25

Block Name: AV SW BLOCK(US)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 8001		R2S11006FT

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 8001	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
	R 8002		RS1/8SQ0R0J
	R 8021,8022		RAB4CQ101J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 8001-8003,8005,8006		CKSSYB104K10
	C 8004,8007,8008		DCH1201
	C 8010-8013,8015,8016		CKSRYB105K10
	C 8018-8020		CKSRYB105K10
	C 8021		CKSRYB104K16

Block Name: RGB SW BLOCK(US)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 8101		R2S11001FT

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 8101	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
R	8123		RAB4CQ0R0J
R	8159		RAB4CQ101J
Other Resistors			RS1/16SS###J

CAPACITORS

C	8104-8107,8111,8112		CKSSYB103K16
C	8108-8110,8133-8135		CKSRYB105K10
C	8113,8114		CCSSCH680J50
C	8115-8122		CKSSYB103K16
C	8123,8128-8130,8132		CKSSYB104K10
C	8124,8131		DCH1201
C	8125-8127		CCSSCH221J50

Block Name: MSP BLOCK(US)

SEMICONDUCTORS

IC	8201		MAP5601M-QK-C3
IC	8331		NJM4565V
IC	8371		BH3544F
Q	8231,8371		2SC4081
Q	8266		DTC124EUA

MISCELLANEOUS

⚠ X	8201	CRYSTAL (20.25 MHz)	ASS1217

RESISTORS

R	8218		RAB4CQ471J
R	8391-8393		RS1/8SQ0R0J
Other Resistors			RS1/16SS###J

CAPACITORS

C	8205,8206,8371,8372		CKSRYB105K10
C	8215,8216,8241		CKSSYB473K16
C	8231,8237,8238		CCG1205
C	8242,8245,8247,8252		CKSSYB103K16
C	8243,8246,8248,8255		DCH1201
C	8251,8253,8331,8332		DCH1165
C	8254,8256,8263,8270		CKSSYB103K16
C	8257,8258		CCSSCH120J50
C	8262,8271,8275,8277		DCH1201
C	8272,8273,8276,8278		CKSSYB103K16
C	8279,8286,8288,8341		DCH1201
C	8280,8285,8287		CKSSYB103K16
C	8333		CKSSYB682K25
C	8342,8378		DCH1201
C	8343,8344		CCSSCH150J50
C	8377		CKSSYB104K10
C	8379		ACH1465
C	8380		CKSRYB105K10

Block Name: D-AMP BLOCK

SEMICONDUCTORS

IC	8401		TAS5122DCA
Q	8485,8486		2SA1576A
Q	8488		DTC124EUA
D	8401		UDZS3R6(B)
D	8551-8554		UDZS30(B)

MISCELLANEOUS

L	8451,8452	INDUCTOR	ATH1252
⚠ F	8551,8552	COMMON MODE FILTER	ATF1224
JA	8551	SPEAKER TERMINAL 4P	AKE1065

RESISTORS

Mark	No.	Description	Part No.
R	8401-8404,8409-8412		ACN1269
R	8405-8408		ACN1276
R	8421-8424,8445		RS1/16SS0R0J
R	8433		RS1/16SS101J
R	8434,8481-8487		RS1/16SS103J
R	8436		RS1/16SS183J
R	8437		RS1/16SS472J
Other Resistors			RS1/10SR###J

CAPACITORS

C	8401-8408		CKSRYB224K16
C	8409-8416		CKSRYB681K50
C	8417-8424		CKSRYB683K16
C	8431,8432		BCG1060
C	8433,8434,8443-8446		CKSRYB104K25
C	8441,8442		CEHAZL152M25-P35
C	8451-8454		CFTLA104J50
C	8455,8456		CFTLA474J50
C	8457-8464		CKSRYB223K50
C	8487		ACH1338
C	8541,8542		CEHAT1R0M50
C	8555-8558		CKSRYB682K50
C	8561-8564		CKSRYF104Z50
C	8571-8578		CCSRCH221J50

Unit Name: SIDE IO ASSY(US E)

MISCELLANEOUS

JA	8601	PIN JACK(3P)	AKB1304
JA	8602	JACK	AKN1083
CN	8601	11PIN CONNECTOR	AKM1438
	8603	SCREW TERMINAL	VNE1949

RESISTORS

R	8601,8602		RST1/2SP120J
R	8692		RS1/10SR0R0J
Other Resistors			RS1/16SS###J

CAPACITORS

C	8601,8602		ACH1454

Unit Name: PC ASSY(US E)

SEMICONDUCTORS

IC	8801		TC74VHC08FTS1
IC	8802		BR24L01AFJ-W
IC	8851		SN65LVDS180PW
Q	8802,8851		DTC124EUA
Q	8852,8853		RN1902
Q	8854		UMD2N
D	8801		1SS301

MISCELLANEOUS

L	8851	CHIP BEEDS FILTER	BTX1042
F	8851	INDUCTOR	CTF1557
CN	8801	FFC CONNECTOR 12P RA	AKM1388
CN	8802	15P D-SUB SOCKET	AKP1214
CN	8851	6PIN CONNECTOR	AKM1419
CN	8852	6PIN MINI-DIN JACK	AKP1330
	8803	SCREW TERMINAL	VNE1949

RESISTORS

R	8806		RAB4CQ473J
R	8807,8808		RAB4CQ101J
R	8809		RAB4CQ222J
R	8853		RS1/10SR2000F

Mark	No.	Description	Part No.
R	8861-8863,8892		RS1/10SR0R0J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	8804		DCH1201
C	8805,8851,8853		CKSSYB104K10

Unit Name: SIDE KEY ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠ L	8701-8704	CHIP SOLID INDUCTOR	QTL1013
S	8701-8706	PUSH SWITCH	CSG1155
CN	8701	4PIN CONNECTOR	AKM1431

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	8701		CKSSYB104K10

Unit Name: LED ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
D	8721		SMLE12BC7T(NP)
D	8722		TLRV1022
D	8723		SML-511DW(QR)

MISCELLANEOUS

Mark	No.	Description	Part No.
CN	8721	6PIN CONNECTOR	AKM1425

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	8722,8723,8726		CKSSYB103K16

Unit Name: IR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
Q	8751		2SA1576A
D	8751		DAN217U

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠ F	8751,8752	INDUCTOR	CTF1557
CN	8751	CONNECTOR	AKM1289
U	8751	REMOTE RECEIVER UNIT	GP1UE28QK0VF

RESISTORS

Mark	No.	Description	Part No.
R	8753		RS1/10SR0R0J
R	8755		RS1/10SR470J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	8751		CEVW470M6R3
C	8752		CKSSYB104K10
C	8753		CKSSYB102K50
C	8754		CKSRYB103K50
C	8755		CCSRCH101J50

Unit Name: FAN CONNECT ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
Q	8761,8762		DTC124EUA
D	8761,8762		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
CN	8761	PLUG(4P)	KM200NA4
CN	8762	PLUG(6P)	KM200NA6
CN	8763	PLUG(7P)	KM200NA7

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/16SS###J

Unit Name: RLS ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	8736		MM3012XN
IC	8737		AMS124YD01

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠ F	8736-8738	INDUCTOR	CTF1557
CN	8736	3PIN CONNECTOR	AKM1422

RESISTORS

Mark	No.	Description	Part No.
R	8737		RS1/16SS2203F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	8736		CKSRYB105K10
C	8737		CKSSYB103K16
C	8738		DCH1201
C	8739,8740		CKSSYB104K10

Unit Name: POWER SW ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
S	8776	PUSH SW	ASG1102
CN	8776	3PIN CONNECTOR	AKM1363

Unit Name: MAIN ASSY (US)

MISCELLANEOUS

Mark	No.	Description	Part No.
	4000	HEAT SINK-A	ANH1717
	4000	THERMAL SHEET B	AEB1417
U	5301	RF FE SYSTEM UNIT	AXF1178

Block Name: BOARD IF 0 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
Q	4001		2SA1576A
D	4001,4002		1SS352
D	4003-4005		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
CN	4001,4003	50P CONNECTOR	AKM1399
CN	4004	40P CONNECTOR	AKM1398
CN	4005	CONNECTOR 7P	AKP1320

RESISTORS

Mark	No.	Description	Part No.
R	4009-4011,4014,4015		RAB4CQ220J
R	4013,4016		RAB4CQ101J
R	4020-4023		RAB4CQ220J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	4003		ACH1421
C	4004-4007		CKSRYB104K16

Block Name: BOARD IF 1 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
D	4101		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	L 4101,4102	CHIP BEEDS FILTER	BTX1042
	CN 4101	50P CONNECTOR	AKM1399
	CN 4104	80P CONNECTOR RCPT	BKP1159
	CN 4105	40P CONNECTOR	AKM1398
	CN 4107	CONNECTOR	AKM1276

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/16SS###J

Block Name: BOARD IF 2 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 4201,4205-4207		DTC124EUA
	Q 4202		RN1902
	Q 4209-4213,4217		DTC124EUA
	Q 4214		2SA1576A
	Q 4215		HN1A01FU
	Q 4216		RN2902
	D 4202-4204		1SS352

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4202	CHIP BEEDS FILTER	BTX1039
⚠	F 4201-4212	INDUCTOR	CTF1557
	CN 4202	PLUG(4P)	KM200NA4
	CN 4207	PLUG(14P)	KM200NA14
	CN 4208	PLUG(7P)	KM200NA7
	CN 4209	PLUG(10P)	KM200NA10
	CN 4210	PLUG(15P)	KM200NA15

RESISTORS

Mark	No.	Description	Part No.
	R 4209,4221,4228		RS1/8SQ0R0J
	R 4219		RS1/8SQ750J
	R 4220,4227		RS1/8SQ561J
	R 4222-4224,4249		RS1/10SR0R0J
	R 4251,4253		RS1/10SR102J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4207		CKSRYB102K50
	C 4211		CCSSCH221J50
	C 4214		DCH1201
	C 4216,4217		CKSSYB104K10

Block Name: POWER 0 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4301		R5523N001B
	IC 4303,4304		PQ200WNA1ZPH
	IC 4305		NJM2846DL3-05
	IC 4306		BD8903FV
	Q 4307		2SA1576A
	D 4301,4305,4316		1SS352
	D 4303		RB551V-30
	D 4306		RB521S-40

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4301	INDUCTOR	BTH1111
	L 4302	CHIP BEEDS FILTER	BTX1039
	L 4306	CHIP COIL	BTH1126

RESISTORS

Mark	No.	Description	Part No.
	R 4301,4310,4339		RS1/8SQ0R0J
	R 4307,4309,4321,4351		RS1/16SS103J
	R 4313,4319,4352		RS1/16SS101J
	R 4324		RS1/16SS821J
	R 4326		RS1/16SS1003D
	R 4350		RS1/16SS0R0J
	R 4358		RS1/16SS332J
		Other Resistors	RS1/16SS####F

CAPACITORS

Mark	No.	Description	Part No.
	C 4303,4304,4308,4350		DCH1165
	C 4305		CKSRYB105K10
	C 4306,4331		BCG1064
	C 4311		ACG1147
	C 4326		ACH1421
	C 4327		DCH1201
	C 4347-4349		CKSSYB104K10
	C 4351		DCH1165

Block Name: POWER 1 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4402		BD8606FV
	IC 4404		NJM2846DL3-33
	Q 4401,4402		RN1902
	Q 4404-4406		DTC124EUA
	Q 4407,4408		2SC4081
	Q 4409,4410		DTA124EUA
	Q 4411,4412,4415		RSS100N03
	Q 4413		RTQ040P02
	Q 4416		RSS090P03
	Q 4417,4418		SP8M4
	D 4401,4402,4410		1SS352
	D 4405-4407		RB060M-30

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4401-4406	CHIP BEEDS FILTER	BTX1039
	L 4409-4411	INDUCTOR (2.8 uH)	ATH1243
	L 4413-4416	CHIP BEEDS FILTER	BTX1039

RESISTORS

Mark	No.	Description	Part No.
	R 4406,4438		RS1/16SS1203D
	R 4407,4425-4427,4441		RS1/16SS3302D
	R 4421		RS1/16SS5602D
	R 4429		RS1/16SS2702D
	R 4440		RS1/16SS1002D
	R 4442		RS1/16SS3902D
	R 4444,4445		RS1/16SS3302D
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4401,4416,4458		CKSRYB104K16
	C 4403-4406,4409,4410		DCH1165
	C 4407,4455,4457		CKSRYB682K50
	C 4411		CCG1232
	C 4414		DCH1201
	C 4417,4419,4426,4434		CKSSYB104K10
	C 4427,4465		CKSRYB105K10
	C 4432,4437		CCSSCH101J50
	C 4435		CCSSCH470J50
	C 4436,4439		CKSSYB152K50
	C 4438		CCSSCH330J50
	C 4440		CKSSYB682K25
	C 4441		CKSSYB221K50
	C 4447,4448,4451,4452		BCG1059
	C 4454		CKSRYB334K10

Mark	No.	Description	Part No.
	C 4462-4464,4466-4468		BCG1059

Block Name: POWER 2 BLOCK(U)

SEMICONDUCTORS

	IC 4501		LTC3407EMSE-2
	IC 4504		NJM2846DL3-18
	Q 4501,4507,4509,4510		RTQ040P02
	Q 4502,4504,4521		2SC4081
	Q 4503,4505		DTC124EUA
	Q 4506		RSS090P03
	Q 4508		2SA1576A
	Q 4512,4513		RN1902
	Q 4522		RSS100N03
	Q 4523		RTQ045N03
	D 4501		UDZS7R5(B)
	D 4503		1SS352
	D 4510,4511		RB551V-30

MISCELLANEOUS

	L 4501	CHIP BEEDS FILTER	BTX1039
	L 4502,4503	CHIP INDUCTOR (2.2 uH)	ATH1244

RESISTORS

	R 4554		RS1/16SS1503D
	R 4558		RS1/16SS1003D
	R 4561		RS1/16SS2003D
	R 4562		RS1/16SS6202D
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4501,4504,4524,4526		CKSSYB104K10
	C 4506		CKSRYB105K10
	C 4510,4513		BCG1059
	C 4517		CKSSYB102K50
	C 4518,4519		CCSSCH470J50
	C 4528,4555		CCSSCH101J50
	C 4531,4548,4549		DCH1201
	C 4536,4537,4539,4559		CKSSYB104K10

Block Name: VDEC BLOCK(U)

SEMICONDUCTORS

	IC 4701		HY57V641620FTP-6
	IC 4702		CM0048BF
	Q 4701,4702		2SA1576A

MISCELLANEOUS

	L 4701,4704	CHIP BEEDS FILTER	BTX1042
	L 4702,4703	COIL	LCYC6R8K2125
	L 4705	CHIP BEEDS FILTER	BTX1042
	X 4701	CRYSTAL (28.63636 MHz)	ASS1214

RESISTORS

	R 4702,4703		RS1/8SQ0R0J
	R 4710,4720		RS1/16SS1500F
	R 4711,4721		RS1/16SS2201F
	R 4712,4722		RS1/16SS1101F
	R 4713,4715,4723		RS1/16SS2701F
	R 4714		RS1/16SS1001F
	R 4726,4737-4745		RAB4CQ470J
	R 4746-4752		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4701,4704-4706,4710		CKSRYB105K10
	C 4702,4703		CCSRCH300J50
	C 4707-4709,4712,4718		CKSSYB103K16
	C 4711		CKSRYB105K10
	C 4713,4717		CCSSCH330J50
	C 4714,4719		CCSSCH680J50
	C 4715,4716		CKSSYB102K50
	C 4720		CKSSYB103K16
	C 4721		CEHVAW101M6R3
	C 4722-4736,4738-4774		CKSSYB104K10
	C 4737,4775-4779		DCH1201
	C 4787		CKSSYB104K10

Block Name: ADC BLOCK(U)

SEMICONDUCTORS

	IC 4801		AD9985KSTZ-110

MISCELLANEOUS

	L 4801,4802	CHIP BEEDS FILTER	BTX1042

RESISTORS

	R 4803		RS1/8SQ0R0J
	R 4804		RS1/16SS2701F
	R 4809-4814		RAB4CQ220J
	R 4815		RAB4CQ103J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4801		CKSSYB823K10
	C 4802		CKSSYB822K16
	C 4803-4805,4807,4809		CKSSYB104K10
	C 4806,4808,4810		CKSSYB473K16
	C 4811-4817		CKSSYB104K10
	C 4818-4820		DCH1201

Block Name: HDMI SW BLOCK(U)

SEMICONDUCTORS

	IC 5001		CXB1444R
	IC 5002-5004		BR24L02FV-W
	Q 5007-5009		UMD2N
	Q 5011-5013		RN1902
	D 5004-5006		UDZS6R8(B)

MISCELLANEOUS

	F 5001	CHIP SOLID INDUCTOR	DTL1041
	JA 5001-5003	HDMI CONNECTOR(VT)	AKP1335

RESISTORS

	R 5018,5029,5050		RS1/16SS49R9F
	R 5058		RS1/16SS4701F
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 5001		BCG1059
	C 5003-5007,5009-5013		CKSSYB104K10
	C 5014		DCH1201
	C 5015,5016,5018,5019		CKSSYB104K10

Block Name: HDMI BLOCK(U)

SEMICONDUCTORS

	IC 4901		SII9125CTU
	Q 4903		2SC4081
	Q 4904-4907,4914		UMD2N
	Q 4908		RN1902

Mark	No.	Description	Part No.
Q	4910		2SA1576A
Q	4912,4915		DTC124EUA
Q	4913		HN1C01FU
D	4901		RB520S-30

MISCELLANEOUS

L	4901-4905	CHIP SOLID INDUCTOR	QTL1013
F	4901,4902	CHIP FERRITE BEADS	ATF1211
JA	4901	HDMI CONNECTOR	AKP1318
X	4901	CRYSTAL (28.322 MHz)	ASS1226

RESISTORS

R	4901,4902		RS1/8SQ0R0J
R	4940-4943,4976-4979		ACN1275
R	4944		RAB4CQ100J
R	4945-4954		RAB4CQ220J
R	4973		RAB4CQ470J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	4901-4928,4932,4933		CKSSYB102K50
C	4929		CKSSYB103K16
C	4930		CCSSCH8R0D50
C	4931		CCSSCH7R0D50
C	4934,4937-4940		CKSSYB104K10
C	4936,4941,4946,4951		DCH1201
C	4942-4945,4947-4950		CKSSYB104K10
C	4952-4960		CKSSYB104K10

Block Name: TUNER BLOCK(U)

SEMICONDUCTORS

IC	5301		LA72702NVA-A-E
IC	5303		TC74HC4066AFT
IC	5304		TC7W66FU
Q	5301,5302		2SA1576A
Q	5304-5306		2SC4081
Q	5307,5308		DTC124EUA
Q	5309-5311		2SC5084
Q	5312		UMD2N
Q	5313		BB504CDS
Q	5314		HN1B04FU

MISCELLANEOUS

L	5303,5304	CHIP COIL	BTH1121
L	5305	CHIP COIL	LCYAR82J2520
F	5301,5303,5304	FERRITE CORE	VTF1080
F	5306	FERRITE CORE	VTF1080
K	5301	TEST PIN	AKX1061

RESISTORS

R	5315		RS1/16SS1502F
R	5320		RS1/16SS2202F
R	5321		RS1/16SS4703F
R	5322		RS1/16SS2203F
R	5323		RS1/16SS1002F
R	5324		RS1/16SS4701F
R	5330		RS1/16SS1001F
	Other Resistors		RS1/16SS###J

CAPACITORS

C	5302-5304,5311,5313		CKSRYB104K16
C	5305,5306,5310,5312		CKSRYB105K10
C	5307		CKSRYB474K10

Mark	No.	Description	Part No.
C	5308,5309		BCG1059
C	5314		CKSRYB105K10
C	5315		CCSRCH821J50
C	5316		CEHVAW101M6R3
C	5317,5320,5321,5363		DCH1201
C	5322,5329-5333		CKSSYB103K16
C	5323,5324		CCSSCH220J50
C	5327		CKSRYB104K50
C	5328		CCSSCH680J50
C	5345-5347,5350-5352		CKSSYB104K10
C	5348		CKSQYB225K10
C	5353,5354		CCSSCH101J50
C	5355,5358,5361,5362		ACG1122
C	5356,5359		CCG1205
C	5357,5360		CKSSYB104K10
C	5364		CKSSYF104Z16
C	5386		CKSSYB102K50

Block Name: F/E IC BLOCK(U)

SEMICONDUCTORS

IC	5501		MN884350
Q	5502		DTC124EUA

MISCELLANEOUS

F	5503	FERRITE CORE	VTF1080
X	5501	CRYSTAL (25 MHz)	ASS1219

RESISTORS

R	5503,5504		RS1/8SQ0R0J
R	5536		RS1/16SS1202D
R	5563		RAB4CQ330J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	5501,5504		CCSSCH100D50
C	5502,5503		CCSSCH8R0D50
C	5505,5509,5510		CKSSYB104K10
C	5513-5542,5547,5548		CKSSYB104K10
C	5543,5550		CKSSYB102K50

Block Name: 7404 0 BLOCK(U)

SEMICONDUCTORS

IC	6001		BCM7404XKPB11G

MISCELLANEOUS

F	6001	FERRITE CORE	VTF1084
JA	6001	RJ45 CONNECTOR TRANS	AKP1332

RESISTORS

R	6005,6006,6025,6028		RS1/10SR750J
R	6007-6009,6016,6018		RAB4CQ470J
R	6019		RS1/16SS1001F
R	6021,6022,6039,6040		RS1/16SS49R9F
R	6037		RS1/16SS1002F
R	6051,6071		RAB4CQ472J
R	6066-6069,6072		RAB4CQ470J
R	6070		RAB4CQ221J
R	6079-6084		RAB4CQ470J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	6001		CKSSYB102K50
C	6004		CCSSCH150J50
C	6008,6016		DCH1201

Mark	No. Description	Part No.
C	6009-6011,6013,6014	CKSSYB104K10

Block Name: 7404 1 BLOCK(U)

SEMICONDUCTORS

Mark	No. Description	Part No.
IC	6102	LP2995M

MISCELLANEOUS

Mark	No. Description	Part No.
L	6101 INDUCTOR	LCTAW2R2J2520
L	6111-6118 CHIP BEEDS FILTER	BTX1042
F	6101-6111 FERRITE CORE	VTF1084
X	6101 CRYSTAL RESONATOR	BSS1134

RESISTORS

Mark	No. Description	Part No.
R	6133,6134	RS1/10SR3010F
R	6156,6157	RAB4CQ472J
R	6163	RS1/8SQ0R0J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
C	6101,6102,6180-6183	BCG1059
C	6103,6104	CCSSCH120J50
C	6105,6106,6109-6112	CKSSYB103K16
C	6107	CCG1232
C	6108,6139-6158	CKSSYB104K10
C	6113,6114	CCSSCH8R0D50
C	6115,6118-6120,6123	CKSSYB103K16
C	6116,6117,6188,6189	ACG1122
C	6121,6122,6125,6128	CKSSYB102K50
C	6124,6126,6127	CKSSYB103K16
C	6129,6134,6135	CKSSYB102K50
C	6130-6133	CKSSYB103K16
C	6136,6137	CEHVAW331M6R3
C	6159,6160,6165,6168	DCH1201
C	6161-6164,6166,6167	CKSSYB104K10
C	6169,6174,6175,6187	DCH1201
C	6170-6173,6176-6179	CKSSYB104K10
C	6186	CKSSYB104K10

Block Name: 7404 DDR BLOCK(U)

SEMICONDUCTORS

Mark	No. Description	Part No.
IC	6201-6204	EDD5116AFTA-5B-E

MISCELLANEOUS

Mark	No. Description	Part No.
L	6201,6202 CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No. Description	Part No.
R	6259-6262,6283	RAB4CQ510J
R	6263,6267-6269	RAB4CQ220J
R	6264-6266,6270,6284	RAB4CQ101J
R	6271-6282,6286-6290	RAB4CQ220J
R	6285,6291-6295,6301	RAB4CQ101J
R	6296-6300,6302-6309	RAB4CQ220J
R	6310,6311,6315,6316	RAB4CQ101J
R	6312-6314	RAB4CQ220J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
C	6201-6204	CKSSYB471K50
C	6205	BCG1059
C	6207,6208,6210-6222	CKSSYB104K10
C	6209,6223,6249	DCH1201
C	6224-6248,6250-6253	CKSSYB104K10

Block Name: 7404 FLASH BLOCK(U)

SEMICONDUCTORS

Mark	No. Description	Part No.
IC	6401	TC74VHC02FTS1
IC	6402	PST3628UR
D	6401	1SS352

RESISTORS

Mark	No. Description	Part No.
R	6402,6457-6465	RAB4CQ472J
R	6467	RAB4CQ103J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
C	6401	CKSSYB103K16
C	6402-6405	CKSSYB104K10
C	6406	CKSSYB473K16

Block Name: ARIA 0 BLOCK(U)

SEMICONDUCTORS

Mark	No. Description	Part No.
IC	6501	PD6568A

MISCELLANEOUS

Mark	No. Description	Part No.
L	6501-6503 CHIP BEEDS FILTER	BTX1042
L	6504,6505 CHIP BEEDS FILTER	BTX1039
L	6506-6509 INDUCTOR	LCYC1R0K1608
X	6501 CRYSTAL (27 MHz)	ASS1225

RESISTORS

Mark	No. Description	Part No.
R	6501-6504	RS1/10SR0R0J
R	6510	RAB4CQ220J
R	6514,6515	RAB4CQ103J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
C	6501,6504-6513,6518	CKSSYB104K10
C	6502,6514,6523	DCH1201
C	6517	CCG1232
C	6525-6528	CKSSYB104K10
C	6576	CCSSCH120J50
C	6577	CCSSCH150J50
C	6578,6580-6587	CKSRYB105K10
C	6589-6608,6610-6614	CKSRYB105K10

Block Name: ARIA 1 BLOCK(U)

RESISTORS

Mark	No. Description	Part No.
R	6602	RS1/8SQ0R0J
R	6603,6604,6607	RS1/16SS2201F
R	6609-6611	RS1/16SS2201F
R	6613-6627,6629,6630	RAB4CQ220J
R	6628	RAB4CQ121J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
C	6615	DCH1201
C	6616-6629	CKSSYB104K10
C	6634	CKSRYB105K10

Block Name: ARIA MEMORY BLOCK(U)

SEMICONDUCTORS

Mark	No. Description	Part No.
IC	6702-6704	EDD1232ABBH-5C-E

RESISTORS

Mark	No. Description	Part No.
R	6701-6703	RS1/8SQ0R0J
R	6745-6780	RAB4CQ470J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6701-6707		CKSSYB104K10
	C 6708,6710,6712,6714		DCH1201
	C 6718		CKSSYB103K16
	C 6722-6745		CKSRYB105K10

Block Name: IF UCOM BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 6801		PST3628UR
	IC 6802-6804		TC74VHC126FTS1
	Q 6803,6813,6814		DTC124EUA
	Q 6812		RN1902
	D 6805		1SS352

MISCELLANEOUS

Mark	No.	Description	Part No.
	X 6801	CERAMIC OSCILLATOR	CSS1616
	X 6802	CRYSTAL OSCILLATOR	ASS1212

RESISTORS

Mark	No.	Description	Part No.
	R 6802		RS1/8SQ0R0J
	R 6880,6885		RAB4CQ103J
	R 6883		RAB4CQ473J
	R 6884		RAB4CQ471J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6801		CKSSYB102K50
	C 6802,6815		CKSSYB472K16
	C 6803,6804		CKSSYB471K50
	C 6805,6806		CCSSCH8R0D50
	C 6807,6809,6814,6817		CKSSYB104K10
	C 6808,6825		DCH1201
	C 6810		CKSSYB103K16
	C 6818,6820,6821,6824		CKSSYB104K10

Block Name: EMMA2 BLOCK(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7002		TC74VHC08FTS1
	IC 7003		UPD61123F1-100KA3A
	IC 7004		BR24L64F-W
	IC 7005		TC7WHU04FU
	IC 7006		TC74HC4066AFT
	Q 7001		2SJ461A
	Q 7002,7003		DTC124EUA
	Q 7005		SSM6N17FU
	Q 7010		UMD2N
	D 7010		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7001,7002	CHIP BEEDS FILTER	BTX1042
	F 7001	FERRITE CORE	VTF1091
	X 7001	CRYSTAL (27 MHz)	ASS1225

RESISTORS

Mark	No.	Description	Part No.
	R 7001		RS1/8SQ0R0J
	R 7009,7069,7092-7097		RAB4CQ101J
	R 7026-7028		RS1/16SS2000D
	R 7029,7036		RS1/16SS6200D
	R 7033		RS1/16SS3300D
	R 7035		RS1/16SS2200D
	R 7060-7066,7068,7071		RAB4CQ680J
	R 7067,7070,7073,7074		RAB4CQ103J
	R 7072		RAB4CQ221J
	R 7075		RAB4CQ220J
	R 7081		RAB4CQ222J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7001,7003-7011		CKSRYB105K10
	C 7014		CKSSYB102K50
	C 7029		CCSSCH100D50
	C 7030		CCSSCH120J50
	C 7031,7032		CCSSCH470J50
	C 7035-7040,7043		CKSSYB104K10
	C 7041,7044,7049		DCH1201
	C 7045-7048,7050,7051		CKSSYB104K10
	C 7054		CKSSYB103K16

Block Name: EMMA2 MEMORY BLO.(U)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7201		EDD5116AFTA-5B-E
	IC 7203		LP2995M

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7201	CHIP BEEDS FILTER	BTX1042
	K 7201	TEST PIN	AKX1061

RESISTORS

Mark	No.	Description	Part No.
	R 7213		RS1/16SS1500F
	R 7243-7246		RAB4CQ680J
	R 7247-7254,7256		RAB4CQ220J
	R 7255,7267		RAB4CQ103J
	R 7260,7261,7268-7270		RAB4CQ560J
	R 7272-7275		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7201		CKSRYB105K10
	C 7202-7204		BCG1059
	C 7205,7206,7225		DCH1201
	C 7207-7219,7223		CKSSYB104K10
	C 7226		CEHVAW331M6R3

Unit Name: SIDE HDMI ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7301		BR24L02FV-W
	IC 7302		CXB1443R
	Q 7301-7304		DTC124EUA
	D 7301		UDZS6R8(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7301	CHIP SOLID INDUCTOR	QTL1013
	JA 7301,7302	HDMI CONNECTOR	AKP1318

RESISTORS

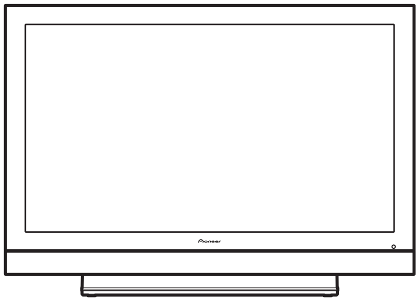
Mark	No.	Description	Part No.
	R 7322		RS1/16SS4701F
	R 7340		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7301		BCG1059
	C 7302		DCH1201
	C 7303-7311		CKSSYB104K10

Pioneer sound.vision.soul

Service Manual



PDP-6020FD

ORDER NO.
ARP3478

FLAT PANEL TV

PDP-6020FD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-6020FD	KUCXC	AC 120 V	

For details, refer to "Important Check Points for good servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▮═══╪ (fast operating fuse) and/or ▮═══╪ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▮═══╪ (fusible de type rapide) et/ou ▮═══╪ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

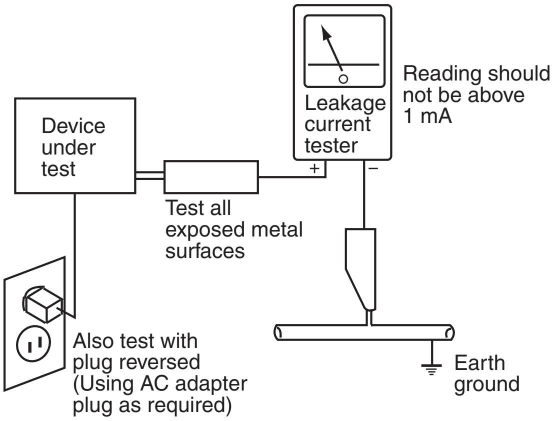
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Device under test
Leakage current tester
+
−
Reading should not be above 1 mA
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit. Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

60F X DRIVE Assy	(210 V)
60F Y DRIVE Assy	(–280 V to 420 V)
60F SCAN A Assy	(–280 V to 420 V)
60F SCAN B Assy	(–280 V to 420 V)
60F SCAN C Assy	(–280 V to 420 V)
60F SCAN D Assy	(–280 V to 420 V)

▨ : Part is Charged Section.

☐ : Part is the High Voltage Generating Points other than the Charged Section.

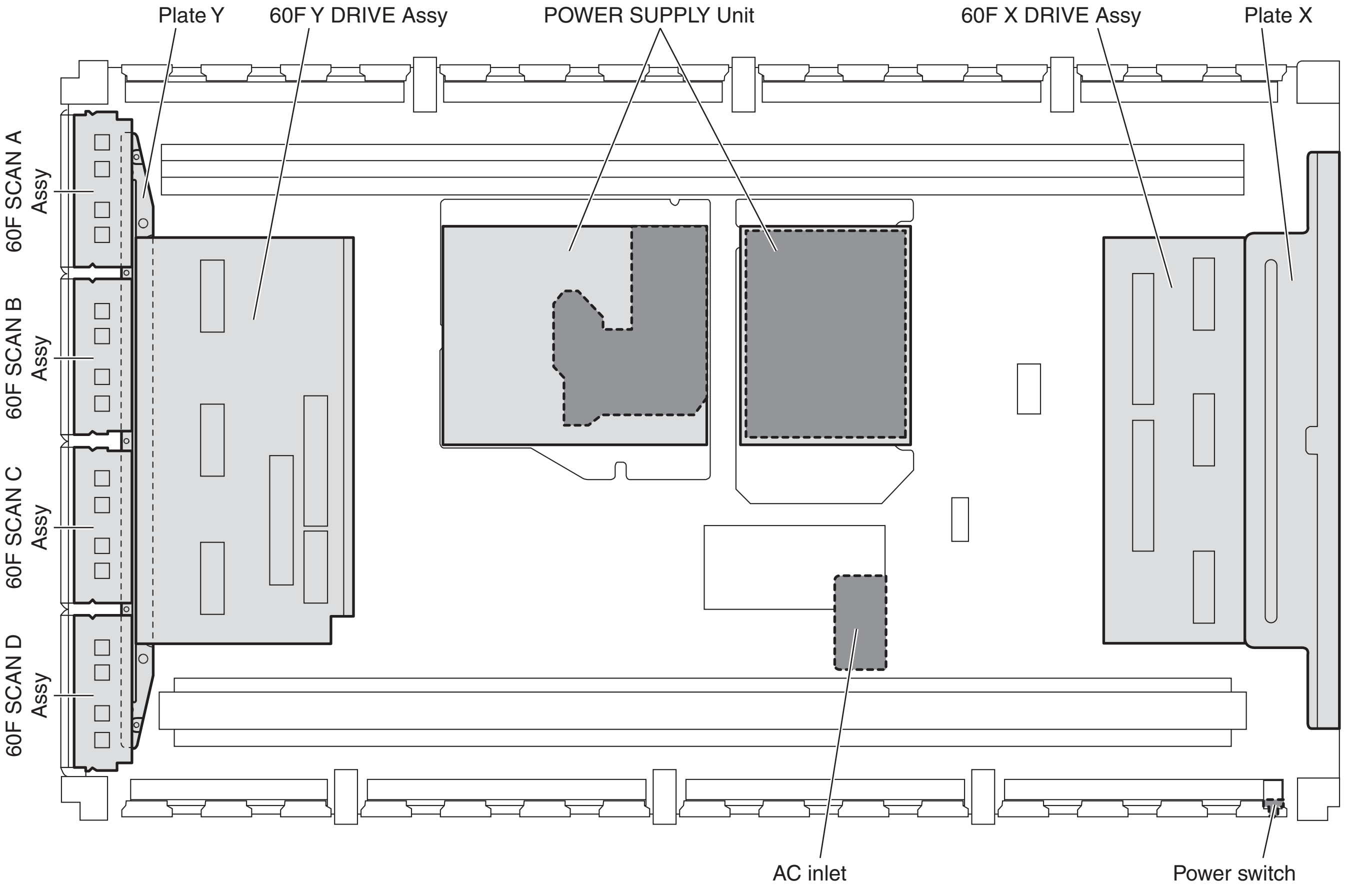
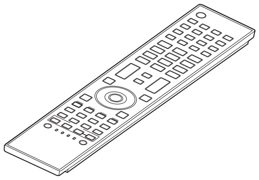


Fig. High Voltage Generating Point (Rear view)

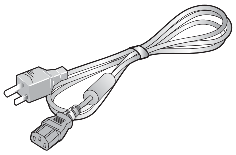
2. SPECIFICATIONS

2.1 ACCESSORIES

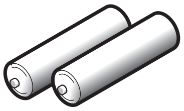
- Remote control (AXD1561)



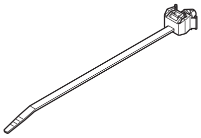
- Power cord (2 m/6.6 feet) (ADG1215)



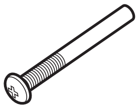
- Alkaline dry cell battery (LR6, AA) (2)



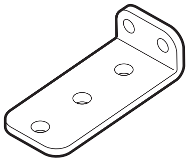
- Binder Assy (AEC2158)
  - Cable clamps (4)



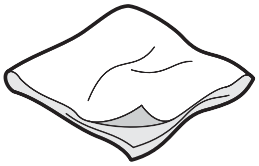
- Stand Accessory Assy (1/2) (AXY1212)
  - Screws to Metal Fittings (4) (M4×35 mm)



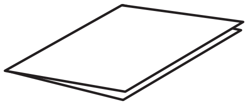
  - Falling prevention Metal Fittings (2)



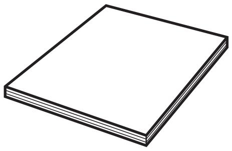
- Cleaning cloth (AED1285)



- Warranty card

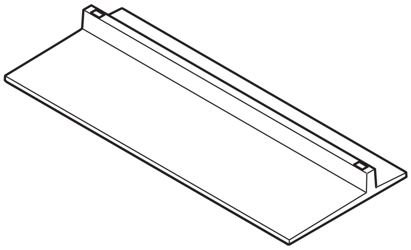


- Operating instructions (ARE1488)

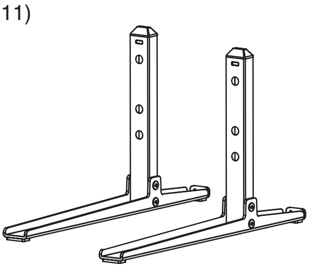


Stand kit

- Base cover
  (AXY1210)

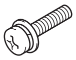


- Stand pipes (2)
  (AXY1211)



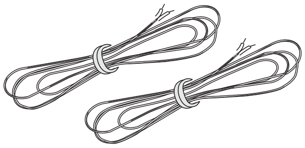
- Stand Accessory Assy (2/2)
  (AXY1212)
  - Silver Screws (4)
    (4×10 mm)

  - Black Screws (4)
    (M6 × 20 mm)

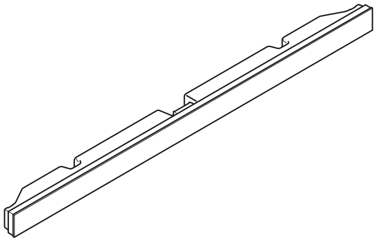


Speaker accessories

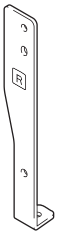
- Speaker cables (2)
  (SBS1202)



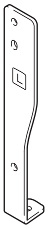
- Speaker



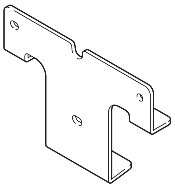
- Speaker Brackets (Right)
  (SXG1174)



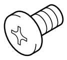
- Speaker Brackets (Left)
  (SXG1173)



- Speaker Bracket (Center)
  (SXG1175)



- Speaker Mounting Screws (9)
  (M5 × 10 mm)
  (SBA1292)



2.2 SPECIFICATIONS

Flat Panel TV	PDP-6020FD (60”)
Number of pixels	1920 × 1080 pixels
Audio Amplifier	18 W + 18 W (1 kHz, 10 %, 6 Ω)
Speaker	Woofer: 4.8 cm x 13 cm cone type Tweeter: 2.5 cm semidome type
Sound Effect	SRS FOCUS/SRS/SRS TruBass/ SRS Definition
On-Screen Languages	English, French, Spanish
Power Requirement	120 V AC, 60 Hz, 524 W (0.3 W Standby)
Weight	Main unit: 50.8 kg (112.0 lbs) Stand: 5.3 kg (11.7 lbs)(including bolts) Speaker: 3.7 kg (8.2 lbs) (including cables, mounting fittings and screws) Total: 59.8 kg (131.8 lbs)

Reception System		
Digital		ATSC Digital TV system
	Circuit Type	8VSB/64QAM/256QAM
	Tuner VHF/UHF	VHF Ch. 2 to 13 UHF Ch. 14 to 69
	Tuner CATV	Ch. 2 to 135
	Audio format	Dolby Digital
Analog		American TV standard NTSC system
	Circuit Type	Video signal detection PLL full synchronous detection, PLL digital Synthesizer system
	Tuner VHF/UHF	VHF Ch. 2 to 13 UHF Ch. 14 to 69
	Tuner CATV	Cable Ch. 1 to 135
	Audio multiplex	BTSC system

Terminals - Side		
	INPUT 3	VIDEO in, AUDIO in
	INPUT 7	HDMI in*
	PHONES	16 Ω to 32 Ω recommended
	USB	USB in**

Terminals - Rear		
	ANT	75 Ω UNBAL, F Type for DTV/VHF/UHF/CATV in
	INPUT 1	S-VIDEO in, VIDEO in, AUDIO in
	INPUT 2	COMPONENT VIDEO in, VIDEO in, AUDIO in
	INPUT 4	HDMI in*, AUDIO in
	PC INPUT	Analog RGB in, AUDIO in
	INPUT 5	HDMI in*, AUDIO in
	INPUT 6	HDMI in*
	AUDIO OUT	AUDIO out (Fixed)
	DIGITAL OUT	Optical
	ETHERNET	1
	CONTROL OUT	1
	SPEAKERS	6 Ω to 16 Ω
	SUB WOOFER OUT	Variable

* conforms to HDMI1.3 (Deep Color) and HDCP1.1

** conforms to USB 1.1 and 2.0

HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.

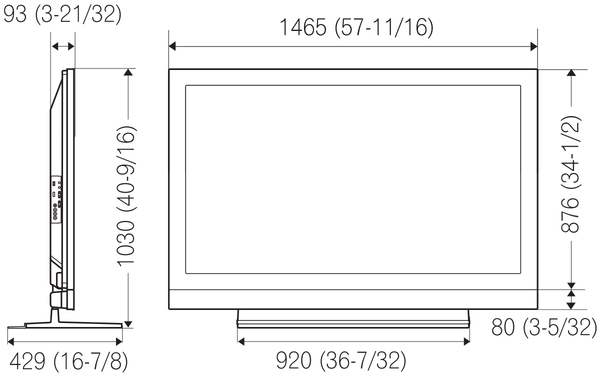
HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Note: Design and specifications are subject to change without notice

ENERGY STAR

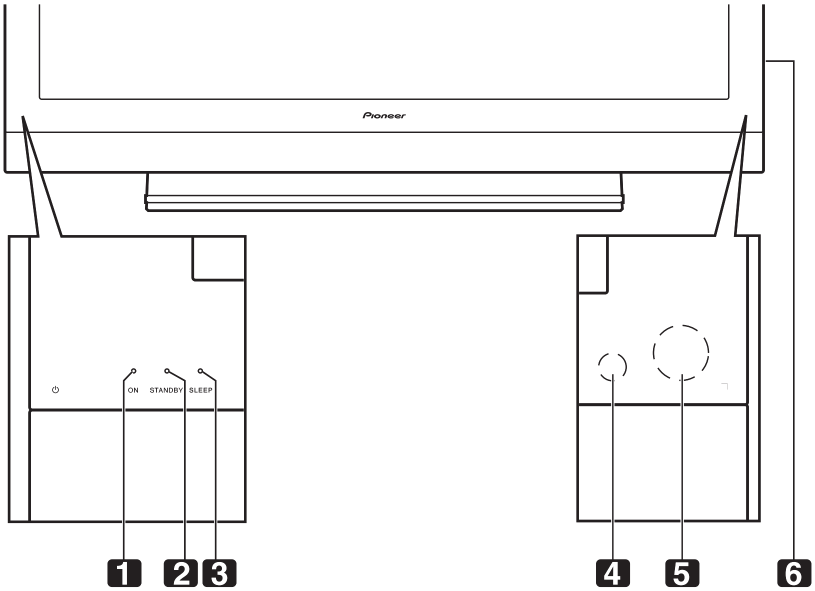
Dimensions

PDP-6020FD (60" panel)



2.3 PANEL FACILITIES

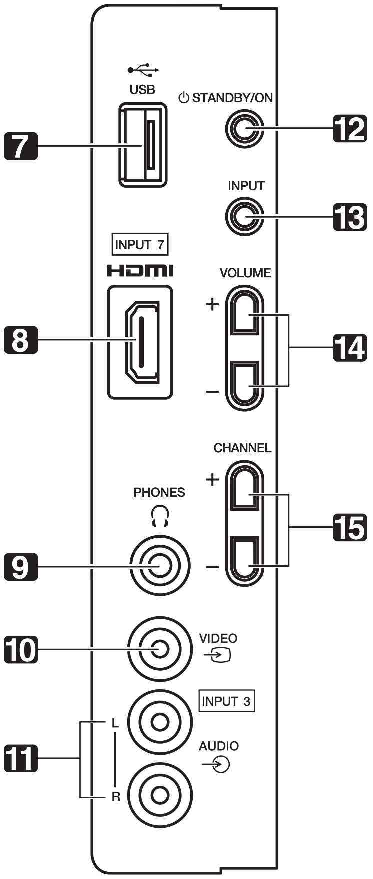
■ Front Section


Pioneer
ON
STANDBY
SLEEP
1
2
3
4
5
6

1 -Power ON indicator
2 -STANDBY indicator
3 -SLEEP indicator

4 -Room Light sensor
5 -Remote Control sensor
6 -Bezel (some call it the front frame)

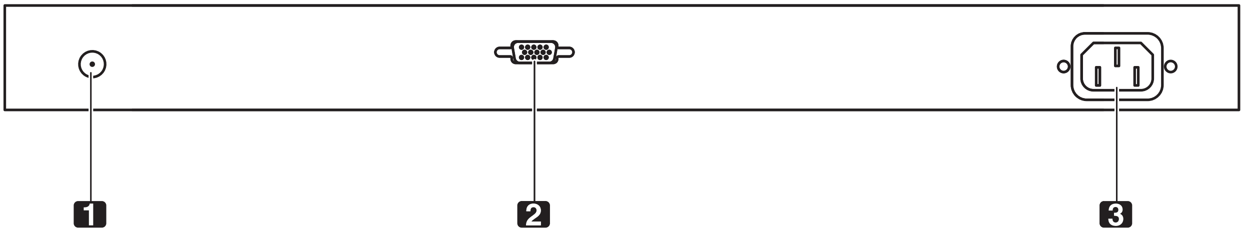
Command Side of the Panel (left side)

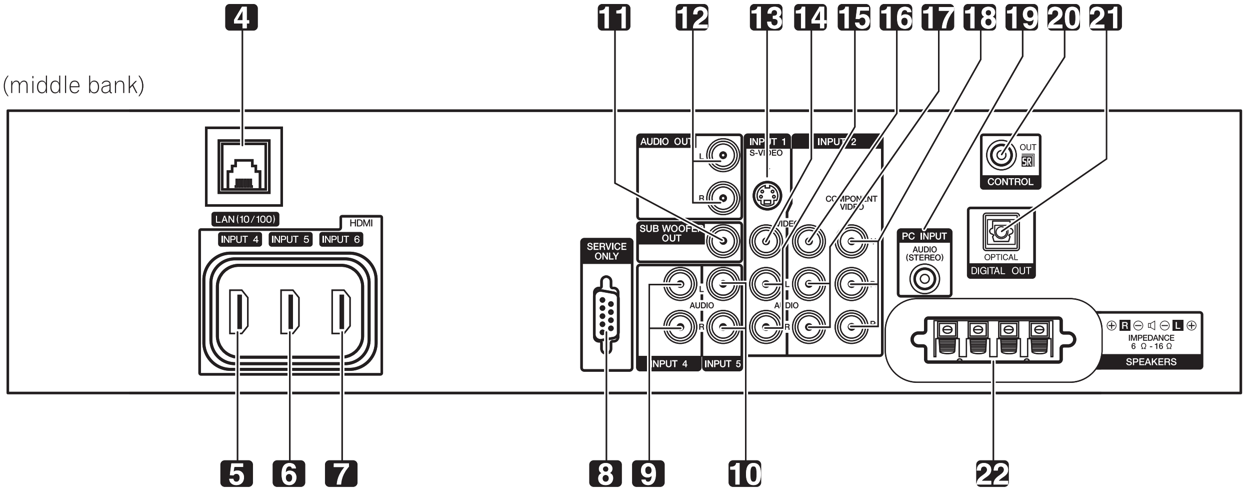

USB
STANDBY/ON
INPUT
INPUT 7
HDMI
VOLUME
+
–
CHANNEL
+
–
PHONES
VIDEO
INPUT 3
L
AUDIO
R
7
8
9
10
11
12
13
14
15

7 -USB terminal
8 -INPUT 7 terminal (HDMI)
9 -PHONES terminal
10 -INPUT 3 terminal (Video)
11 -INPUT 3 terminals (Audio)
12 -STANDBY/ON button
13 -INPUT button
14 -VOLUME Up/Down buttons
15 -CHANNEL Up/Down buttons

■ Rear Section

1 -ANT terminal
2 -PC Input terminal (Analog RGB)
3 -AC In terminal
(upper bank)

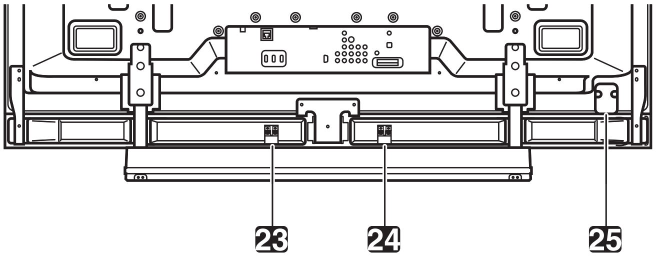



4
11
12
13
14
15
16
17
18
19
20
21
LAN (10/100)
HDMI
INPUT 4
INPUT 5
INPUT 6
SERVICE ONLY
AUDIO OUT
L
R
SUB WOOFER OUT
INPUT 1
S-VIDEO
INPUT 2
COMPONENT VIDEO
VIDEO
AUDIO
L
R
AUDIO
INPUT 4
INPUT 5
OUT
SR
CONTROL
PC INPUT
AUDIO (STEREO)
OPTICAL
DIGITAL OUT
⊕ R ⊖ ⊖ L ⊕
IMPEDANCE
6 Ω - 16 Ω
SPEAKERS
5
6
7
8
9
10
22

(middle bank)

(from left to right, top to bottom)

4 -Ethernet cable port
5 -INPUT 4 terminal (HDMI)
6 -INPUT 5 terminal (HDMI)
7 -INPUT 6 terminal (HDMI)
8 -RC-232C terminal (for factory use)
9 -INPUT 4 terminal (Audio)
10 -INPUT 5 terminal (Audio)
11 -SUBWOOFER OUT terminal
12 -AUDIO OUT terminals (Audio)
13 -INPUT 1 terminal (S-Video)
14 -INPUT 1 terminal (Video)
15 -INPUT 1 terminals (Audio)
16 -INPUT 2 terminal (Video)
17 -INPUT 2 terminals (Audio)
18 -INPUT 2 terminals (Component, Y, P_B, P_R)
19 -PC INPUT terminal (Audio)
20 -CONTROL OUT terminal
21 -DIGITAL OUT terminal (Optical)
22 -SPEAKERS (right/left) terminal



(PDP-6020FD)

(lower bank)

23 -Speakers (R) terminal (speaker side)
24 -Speakers (L) terminal (speaker side)
25 -**Power On button**

Terminals on side and rear panels are common to both 20FD models.

Remote Control Unit

TV ⏻: 1
Turn On or place panel in Standby

INPUT: 2
Select a source (INPUT 1 thru INPUT 7)

PC: 3
Select the PC terminal as an input source

AV SELECTION: 4
Select audio/video settings
AV Source: OPTIMUM, STANDARD, DYNAMIC, MOVIE, GAME, SPORT, USER
PC Source: STANDARD, USER

SPLIT: 5
Cycle view thru single-screen, 2-screen, picture-in-picture

FREEZE: 6
Freeze a frame from a moving image then press again to cancel the freeze function

Number buttons 0 thru 9: 7
Select a channel

•(dot): 8
Enter a dot for selecting a sub-channel

VOL +/–: 9
Set the volume

EXIT: 10
Exit the menu to return to the normal screen

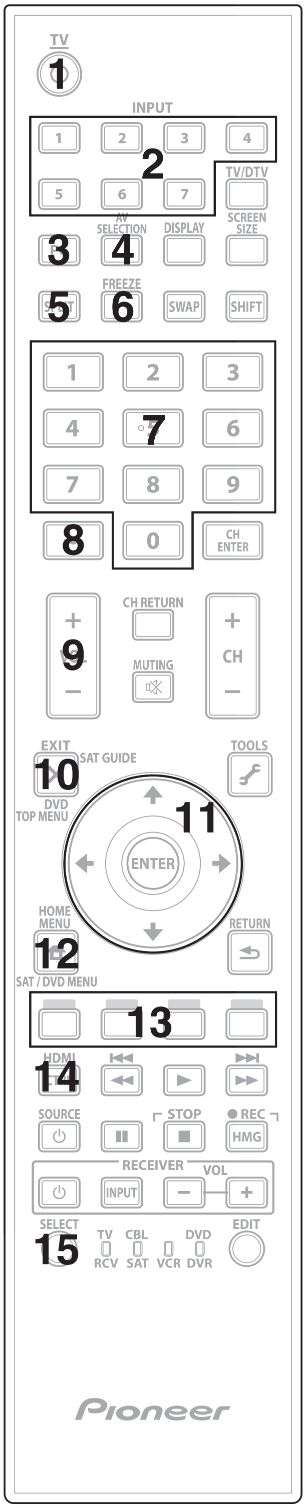
Arrow buttons: 11
Navigate the menu screens

HOME MENU: 12
Display the HOME MENU

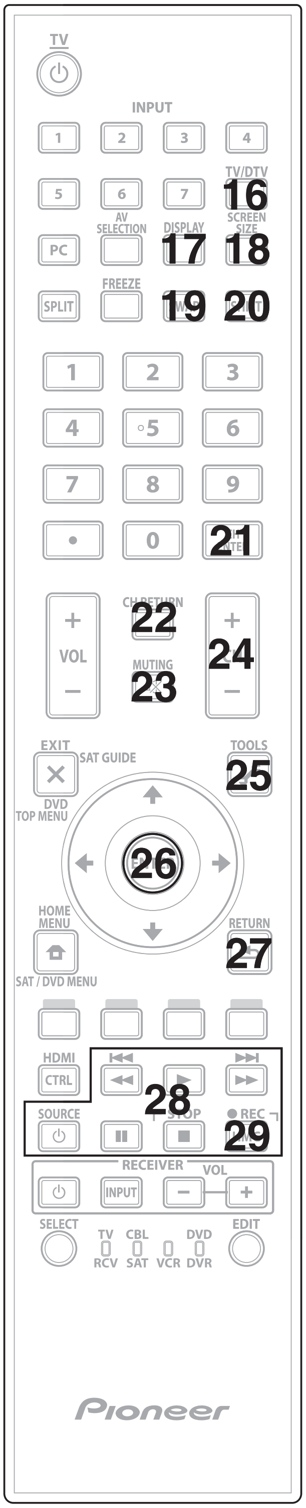
Color buttons (Red, Green, Blue, Yellow): 13
Control a BD player for HDMI Control functions only

HDMI CONTROL: 14
Select the HDMI Control functions

SELECT: 15
Select for TV/RCV, CBL/SAT, VCR, or DVD/DVR



TV
1
INPUT
1 2 3 4
2
5 6 7
TV/DTV
AV SELECTION
DISPLAY
SCREEN SIZE
3
4
FREEZE
5
6
SWAP
SHIFT
1 2 3
4 5 6
7
7 8 9
8
0
CH ENTER
CH RETURN
9
MUTING
CH
EXIT
SAT GUIDE
TOOLS
10
DVD TOP MENU
11
ENTER
HOME MENU
RETURN
12
SAT / DVD MENU
13
HDMI
14
SOURCE
STOP
● REC
HMG
RECEIVER
VOL
INPUT
SELECT
EDIT
15
TV RCV
CBL SAT
VCR
DVD DVR
Pioneer


TV
INPUT
1
2
3
4
5
6
7
TV/DTV
16
AV SELECTION
DISPLAY
SCREEN SIZE
PC
17
18
FREEZE
SPLIT
19
20
1
2
3
4
5
6
7
8
9
•
0
21
CH RETURN
22
VOL
MUTING
23
24
EXIT
SAT GUIDE
TOOLS
25
DVD TOP MENU
26
HOME MENU
RETURN
27
SAT / DVD MENU
HDMI CTRL
28
SOURCE
STOP
● REC
29
RECEIVER
INPUT
VOL
SELECT
TV RCV
CBL SAT
VCR
DVD DVR
EDIT
Pioneer

16 **TV/DTV:**
Select analog or digital TV channels

17 **DISPLAY:**
Display the channel information

18 **SCREEN SIZE:**
Select the screen size

19 **SWAP:**
Switch between the two screens when viewing as 2-screen or picture-in-picture

20 **SHIFT:**
Move the location of the small screen when viewing as picture-in-picture

21 **CH ENTER:**
Change the channel

22 **CH RETURN:**
Return to the previous channel

23 **MUTING:**
Turn off the sound while the video continues to play

24 **CH +/–:**
Cycle through channels

25 **TOOLS:**
Display the TOOLS Menu

26 **ENTER:**
Execute a command

27 **RETURN:**
Return to the previous menu screen

28 **Player/Recorder Control:**
Use buttons for control of connected equipment

29 **HMG (Home Media Gallery):**
Display the Home Media Gallery menu
Use this button to start recording (for VCR/DVD recorder only)

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning

Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.4 CHASSIS SECTION (1/2)”.

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① Rear case

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② Attaching screws for the HDMI connector

When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① How to discharge before replacing the Assys

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:

A: Let the panel sit at least for 3 minutes after the power is turned off.

B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.

For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".

② On the settings after replacement of the Assys

Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

① Setting in Factory mode

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD

Item	No. of LEDs flashing Red	No. of LEDs flashing Blue
SQ_LSI		Blue 1
Module device communication		Blue 2
DIGITAL-RST2		Blue 3
Panel temperature		Blue 4
Audio		Blue 5
Module UCOM communication		Blue 6
Main 3-wire serial communication		Blue 7
Main IIC communication		Blue 8
Main UCOM communication		Blue 9
FAN		Blue 10
Unit high temperature		Blue 11
D-TUNER communication		Blue 12
MTB-RST2/RST4		Blue 13
Main EEPROM		Blue 15
POWER	Red 2	
SCAN	Red 3	
SCN-5V	Red 4	
Y-DCDC	Red 6	
Y-SUS	Red 7	
ADRS	Red 8	
X-DCDC	Red 10	
X-SUS	Red 11	
DIG-DCDC	Red 12	
UNKNOWN	Red 15	

Subcategory confirmation procedure

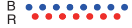
If the DISPLAY key is pressed during shutdown, the orange LED flashes. For indication patterns other than described below, see 5.4 [2].

SD		SD Subcategory
2	1	EEPROM
	2	BACKUP
	3	DAC
4	1	PANEL high temperature
	2	PANEL low temperature
8	1	Tuner 1
	2	MSP/MAP
	3	AV Switch
	4	RGB Switch
	5	Main VDEC
	6	VDEC-SDRAM
	7	AD/PLL
	8	HDMI
	11	US-MSP
13	1	RST2
	2	RST4

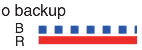
LED Display Information

For indication patterns other than described below, see 5.1 [1].

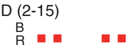
① Rewriting software



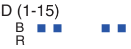
② No backup



③ PD (2-15)



④ SD (1-15)



How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① Panel system

PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] two times.)

SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

② MTB section

Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] two times.)

3. How to display the Mask indication

① Mask indication in the panel side

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬆] or [⬇].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN Assy: Execution of FINAL SETUP.

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

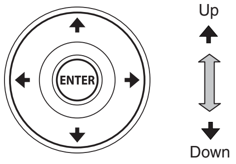
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value

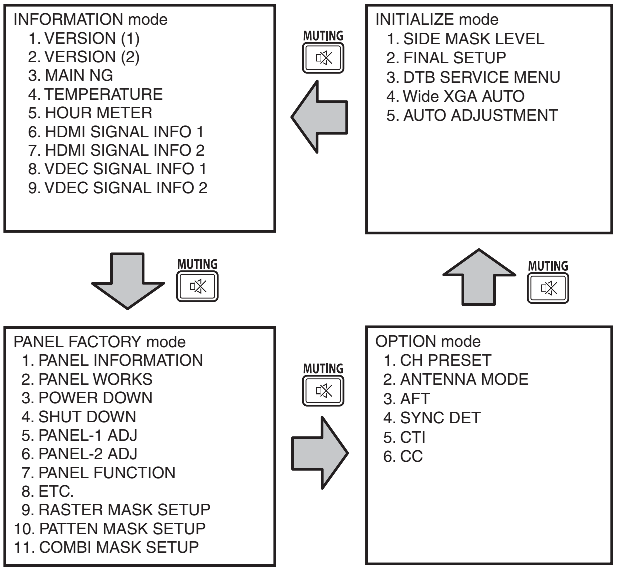
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO 1
7. HDMI SIGNAL INFO 2
8. VDEC SIGNAL INFO 1
9. VDEC SIGNAL INFO 2

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

OPTION mode
1. CH PRESET
2. ANTENNA MODE
3. AFT
4. SYNC DET
5. CTI
6. CC

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. DTB SERVICE MENU
4. Wide XGA AUTO
5. AUTO ADJUSTMENT

Structure of Layers in Service Factory Mode

INFORMATION mode	
├ 1. VERSION (1)	The software versions for each microcomputer
├ 2. VERSION (2)	The Flash memory versions for each device
├ 3. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
│ └ 3-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [ENTER/SET] key
├ 4. TEMPERATURE	The temperature/FAN rotating status/Room Light Sensor
├ 5. HOUR METER	The HOUR METER/P-COUNT information
│ └ 5-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [ENTER/SET] key
├ 6. HDMI SIGNAL INFO 1	The information of HDMI information files
├ 7. HDMI SIGNAL INFO 2	The information of HDMI information files
├ 8. VDEC SIGNAL INFO 1	The signal information of VDEC
└ 9. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION mode	
├ 1. CH PRESET	For production line use
├ 2. ANTENNA MODE	For production line use
├ 3. AFT	For production line use
├ 4. SYNC DET	For technical analysis
├ 5. CTI	For technical analysis
└ 6. CC	For technical analysis
INITIALIZE mode	
├ 1. SIDE MASK LEVEL	For factory use
│ └ 1-1. SIDE MASK LEVEL	
├ 2. FINAL SETUP	Set to Factory default settings (it should perform after
│ └ 2-1. DATA RESET	replacing a MAIN Assy)
├ 3. DTB SERVICE MODE	Information for the Digital Tuner Service Menu is displayed
│ └ 3-1. MODE SHIFT	
├ 4. Wide XGA AUTO	For technical analysis
└ 5. AUTO ADJUSTMENT	

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS 2. VOL OFFSET • • • • •	Settings required after replacement of the panel
10. RESET1ST_KSB • • • • •	Items for factory use
25. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH 2. G-HIGH • • • • • 6. B-LOW 7. ABL	For the WB adjustment of the panel and ABL adjustment. A setting table is available for each signal frequency.
7. PANEL FUNCTION (+)	
1. R-LEVEL • • • • •	Items for factory use

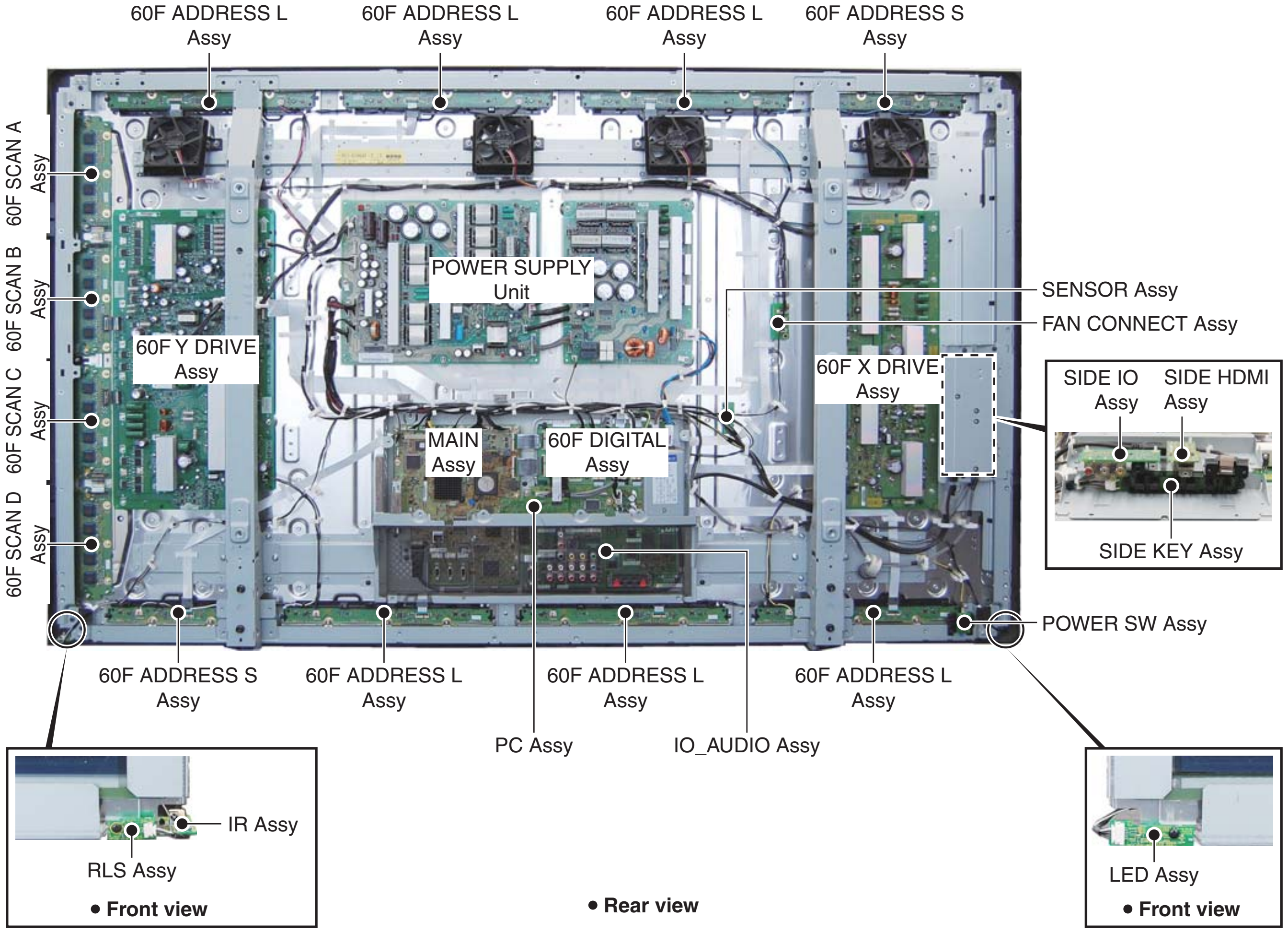
To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

8. ETC (+)	
1. BACKUP DATA 2. DIGITAL EEPROM	For transferring backup data (after replacement of the DIGITAL Assy) Change the adjustment status of the DIGITAL Assy.
3. PD INFO. 4. SD INFO. 5. HR-MTR INFO. 6. PM/B1-B5 7. P COUNT INFO. 8. MAX TEMP.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", then hold [ENTER/SET] pressed for at least 5 seconds.
9. MIRROR	Switch the Mirror display mode.
10. CLS	Switch the function when checking the color sensor level.
9. RASTER MASK SETUP (+)	
1. MASK OFF 2. RST MASK 01 • • • • •	For use while the Raster Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
10. PATTERN MASK SETUP (+)	
1. MASK OFF 2. PTN MASK 01 • • • • •	For use while the Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
11. COMBI MASK SETUP (+)	
1. MASK OFF 2. CMB MASK 01 • • • • •	For use while the Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.

3.3 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype.
Upon servicing, be sure to restore the original wiring of the unit after repair work.


60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS S Assy
60F SCAN A Assy
60F SCAN B Assy
60F SCAN C Assy
60F SCAN D Assy
POWER SUPPLY Unit
60F Y DRIVE Assy
SENSOR Assy
FAN CONNECT Assy
60F X DRIVE Assy
SIDE IO Assy
SIDE HDMI Assy
MAIN Assy
60F DIGITAL Assy
SIDE KEY Assy
POWER SW Assy
60F ADDRESS S Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
PC Assy
IO_AUDIO Assy
IR Assy
RLS Assy
● Front view
● Rear view
LED Assy
● Front view

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP		60F ADDRESS L ASSY	AWW1341
NSP		60F ADDRESS S ASSY	AWW1342
NSP		60F SCAN A ASSY	AWW1343
		└ IC2801 - IC2804	AN16184A
NSP		60F SCAN B ASSY	AWW1344
		└ IC2901 - IC2904	AN16184A
NSP		60F SCAN C ASSY	AWW1345
		└ IC3001 - IC3004	AN16184A
NSP		60F SCAN D ASSY	AWW1346
		└ IC3101 - IC3104	AN16184A
		SENSOR ASSY	AWW1340
		60F DIGITAL Assy	AWW1339
		60F X DRIVE ASSY	AWV2540
		60F Y DRIVE ASSY	AWV2541

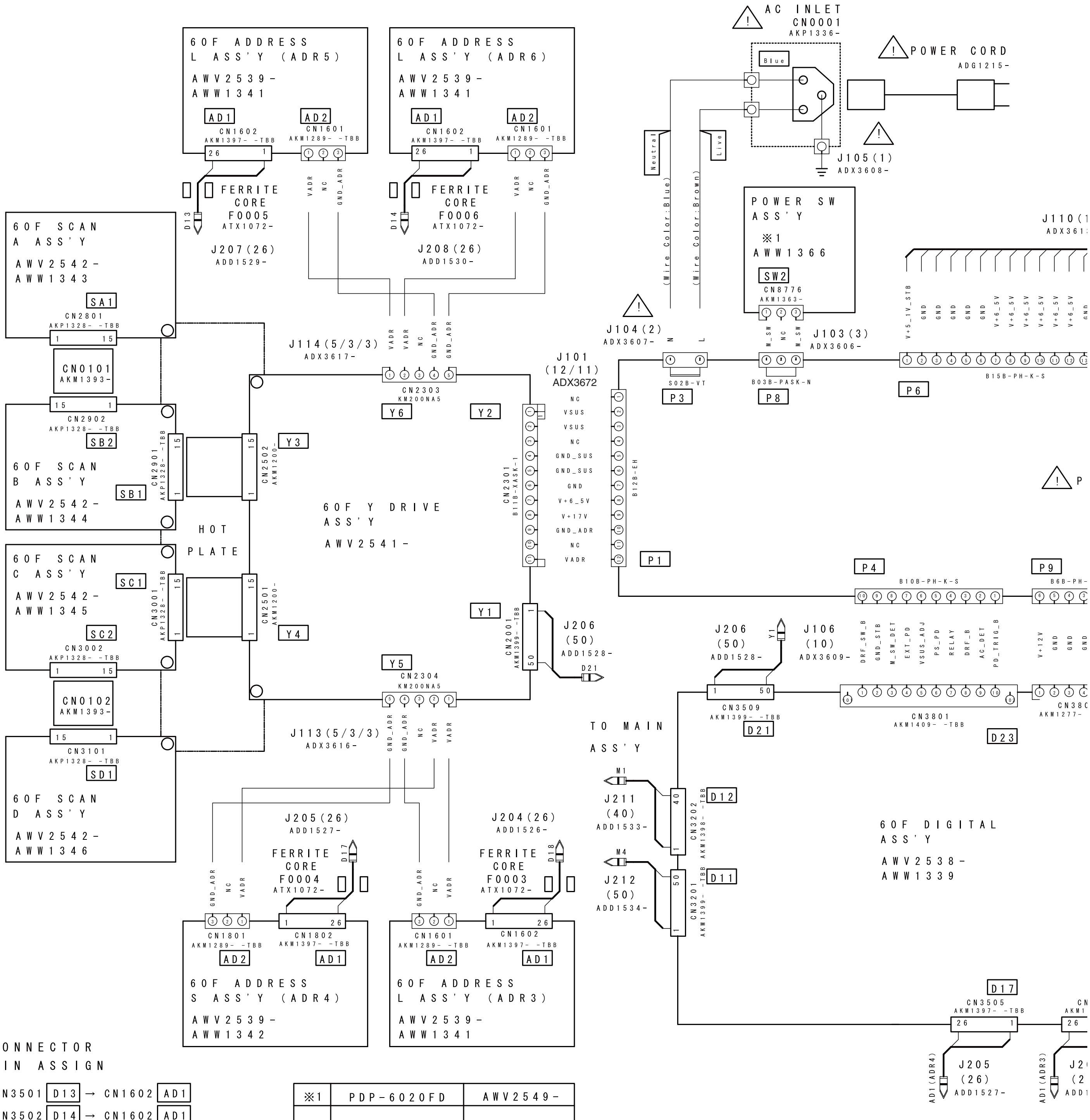
Mark	No.	Description	Part No.
		MAIN ASSY	AWW1371
		SIDE HDMI ASSY	AWW1372
		IO_AUDIO ASSY	AWW1352
		SIDE IO ASSY	AWW1356
		PC ASSY	AWW1359
		SIDE KEY ASSY	AWW1361
		LED ASSY	AWW1362
		IR ASSY	AWW1363
		FAN CONNECT ASSY	AWW1364
		RLS ASSY	AWW1365
		POWER SW ASSY	AWW1366
⚠		POWER SUPPLY UNIT	AXY1201
⚠		PDP SERVICE ASSY 609F	AWU1346

3.4 JIGS LIST

Name	Jig No.	Remarks
Service Cotton Cloth Glove	GYX1002	7.3 DISASSEMBLY AND REASSEMBLY PRECAUTIONS FOR SPEAKER SYSTEM

4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM (1/2)


60F ADDRESS L ASS'Y (ADR5)
AWV2539-
AWW1341
AD1
AD2
CN1602 AKM1397- -TBB
CN1601 AKM1289- -TBB
60F ADDRESS L ASS'Y (ADR6)
AWV2539-
AWW1341
FERRITE CORE F0005 ATX1072-
FERRITE CORE F0006 ATX1072-
D13
D14
VADR
NC
GND_ADR
J207(26) ADD1529-
J208(26) ADD1530-
AC INLET CN0001 AKP1336-
Blue
Neutral
Live
(Wire Color:Blue)
(Wire Color:Brown)
POWER CORD ADG1215-
J105(1) ADX3608-
POWER SW ASS'Y
※1
AWW1366
SW2
CN8776 AKM1363-
M_SW
NC
M_SW
J104(2) ADX3607-
N
L
J103(3) ADX3606-
S02B-VT
B03B-PASK-N
P3
P8
J110(1
ADX361
V+5_1V_STB
GND
V+6_5V
B15B-PH-K-S
P6
60F SCAN A ASS'Y
AWV2542-
AWW1343
SA1
CN2801 AKP1328- -TBB
CN0101 AKM1393-
CN2902 AKP1328- -TBB
SB2
60F SCAN B ASS'Y
AWV2542-
AWW1344
SB1
CN2901 AKP1328- -TBB
CN2502 AKM1200-
Y3
HOT PLATE
60F SCAN C ASS'Y
AWV2542-
AWW1345
SC1
CN3001 AKP1328- -TBB
CN2501 AKM1200-
Y4
SC2
CN3002 AKP1328- -TBB
CN0102 AKM1393-
CN3101 AKP1328- -TBB
SD1
60F SCAN D ASS'Y
AWV2542-
AWW1346
J114(5/3/3) ADX3617-
CN2303 KM200NA5
Y6
Y2
J101 (12/11) ADX3672
NC
VSUS
GND_SUS
GND
V+6_5V
V+17V
GND_ADR
CN2301 B11B-XASK-1
B12B-EH
P1
60F Y DRIVE ASS'Y
AWV2541-
Y1
CN2001 AKM1399- -TBB
J206 (50) ADD1528-
D21
Y5
CN2304 KM200NA5
J113(5/3/3) ADX3616-
P4
B10B-PH-K-S
P9
B6B-PH-
J106 (10) ADX3609-
DRF_SW_B
GND_STB
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRIG_B
V+12V
CN3509 AKM1399- -TBB
D21
CN3801 AKM1409- -TBB
D23
CN380 AKM1277-
TO MAIN ASS'Y
M1
J211 (40) ADD1533-
CN3202 AKM1398- -TBB
D12
M4
J212 (50) ADD1534-
CN3201 AKM1399- -TBB
D11
60F DIGITAL ASS'Y
AWV2538-
AWW1339
J205(26) ADD1527-
J204(26) ADD1526-
FERRITE CORE F0004 ATX1072-
FERRITE CORE F0003 ATX1072-
D17
D18
CN1801 AKM1289- -TBB
CN1802 AKM1397- -TBB
CN1601 AKM1289- -TBB
CN1602 AKM1397- -TBB
60F ADDRESS S ASS'Y (ADR4)
AWV2539-
AWW1342
60F ADDRESS L ASS'Y (ADR3)
AWV2539-
AWW1341
D17
CN3505 AKM1397- -TBB
J205 (26) ADD1527-
AD1(ADR4)
AD1(ADR3)

CONNECTOR
PIN ASSIGN

※1	PDP-6020FD	AWV2549-

CN3501 D13 → CN1602 AD1
CN3502 D14 → CN1602 AD1
CN3503 D15 → CN1602 AD1
CN3504 D16 → CN1802 AD1
CN3505 D17 → CN1802 AD1
CN3506 D18 → CN1602 AD1
CN3507 D19 → CN1602 AD1
CN3508 D20 → CN1602 AD1

1→26. V+10V
2→25. V+10V
3→24. GND
4→23. GND
5→22. AN
6→21. AP
7→20. GND
8→19. BN
9→18. BP
10→17. GND
11→16. CN
12→15. CP
13→14. GND
14→13. CLKN
15→12. CLKP
16→11. GND
17→10. DN
18→ 9. DP
19→ 8. GND
20→ 7. GND
21→ 6. V+3_3V
22→ 5. V+3_3V
23→ 4. V+3_3V
24→ 3. GND
25→ 2. LS1
26→ 1. ADR_PD

CN2501 Y4
↓
CN3001 SC1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. SI
8. GNDH_DIG
9. CLK_L
10. LE
11. OC1
12. OC2
13. CLR
14. GNDH_RL
15. IC5V

CN2502 Y3
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. CLK_H
8. GNDH_DIG
9. LE
10. OC1
11. OC2
12. CLR
13. SI
14. GNDH_RH
15. IC5V

CN2801 SA1
↓
CN2902 SB2

1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_A
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLK_H
10→ 6. LE
11→ 5. OC1
12→ 4. OC2_H
13→ 3. CLR
14→ 2. GNDH_RH
15→ 1. IC5V

CN3002 SC2
↓
CN3101 SD1

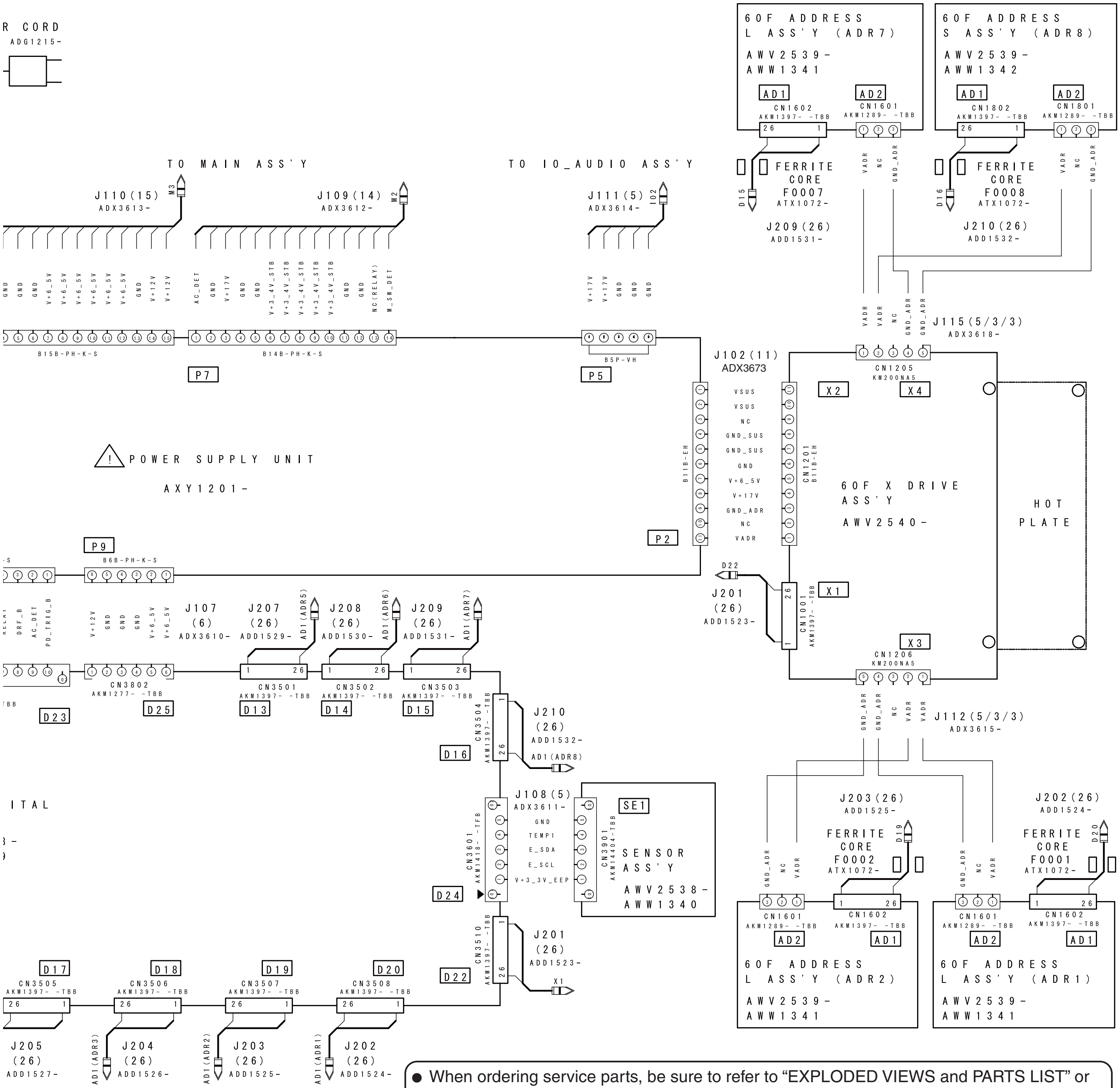
1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_D
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLR
10→ 6. OC2_L
11→ 5. OC1
12→ 4. LE
13→ 3. CLK_L
14→ 2. GNDH_RL
15→ 1. IC5V

CN3509 D21 → CN2001 Y1

1→50. YCN_PD
2→49. VYPRST_ADJ
3→48. SCAN_PD
4→47. GND
5→46. YDD_PD
6→45. VOFS_ADJ
7→44. YSUS_PD
8→43. GND
9→42. YRSV1
10→41. YRSV2
11→40. GND
12→39. YKNOFS4
13→38. YKNOFS3
14→37. YKNOFS2
15→36. YKNOFS1
16→35. GND
17→34. YSOFT-G
18→33. SUS_MUTE
19→32. YSNOFS
20→31. GND
21→30. YRST-D
22→29. YSUS_LMSK
23→28. YSUS_HMSK
24→27. GND
25→26. YSUS_D
26→25. YPR-U
27→24. YSUS_G
28→23. GND
29→22. YSUS_U
30→21. YRSV3
31→20. YSUS_B
32→19. ESW
33→18. GND
34→17. CLK_L
35→16. YRSV4
36→15. SI
37→14. CLK_H
38→13. GND
39→12. LE
40→11. OC1
41→10. OC2
42→ 9. CLR
43→ 8. GND
44→ 7. VKNOFS4_ADJ
45→ 6. VKNOFS3_ADJ
46→ 5. VKNOFS1_2_ADJ
47→ 4. GND
48→ 3. SCN5V_PD
49→ 2. YDRV_PD(GND)
50→ 1. PSW2

CN3201

1→50
2→49
3→48
4→47
5→46
6→45
7→44
8→43
9→42
10→41
11→40
12→39
13→38
14→37
15→36
16→35
17→34


R CORD
ADG1215-
60F ADDRESS L ASS'Y (ADR7)
AWV2539-
AWW1341
AD1
AD2
CN1602
AKM1397- -TBB
CN1601
AKM1289- -TBB
FERRITE CORE F0007
ATX1072-
D15
VADR
NC
GND_ADR
J209(26)
ADD1531-
60F ADDRESS S ASS'Y (ADR8)
AWV2539-
AWW1342
AD1
AD2
CN1802
AKM1397- -TBB
CN1801
AKM1289- -TBB
FERRITE CORE F0008
ATX1072-
D16
J210(26)
ADD1532-
TO MAIN ASS'Y
J110(15)
ADX3613-
M3
J109(14)
ADX3612-
M2
TO IO_AUDIO ASS'Y
J111(5)
ADX3614-
IO2
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
V+12V
V+12V
AC_DET
GND
V+17V
GND
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
V+17V
V+17V
GND
GND
GND
B15B-PH-K-S
B14B-PH-K-S
B5P-VH
P7
P5
VADR
VADR
NC
GND_ADR
GND_ADR
J115(5/3/3)
ADX3618-
J102(11)
ADX3673
CN1205
KM200NA5
X2
X4
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+17V
GND_ADR
NC
VADR
B11B-EH
CN1201
B11B-EH
POWER SUPPLY UNIT
AXY1201-
60F X DRIVE ASS'Y
AWV2540-
HOT PLATE
P2
P9
B6B-PH-K-S
RELAY
DRF_B
AC_DET
PD_TRIG_B
V+12V
GND
GND
V+6_5V
V+6_5V
D22
J201
(26)
ADD1523-
CN1001
AKM1397- -TBB
X1
X3
CN1206
KM200NA5
J107
(6)
ADX3610-
J207
(26)
ADD1529-
AD1(ADR5)
J208
(26)
ADD1530-
AD1(ADR6)
J209
(26)
ADD1531-
AD1(ADR7)
CN3802
AKM1277- -TBB
CN3501
AKM1397- -TBB
CN3502
AKM1397- -TBB
CN3503
AKM1397- -TBB
D23
D25
D13
D14
D15
CN3504
AKM1397- -TBB
J210
(26)
ADD1532-
AD1(ADR8)
D16
GND_ADR
GND_ADR
NC
VADR
VADR
J112(5/3/3)
ADX3615-
ITAL
J108(5)
ADX3611-
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3601
AKM1418- -TFB
CN3901
AKM14404-TBB
SE1
SENSOR ASS'Y
AWV2538-
AWW1340
D24
CN3510
AKM1397- -TBB
J201
(26)
ADD1523-
X1
D22
J203(26)
ADD1525-
FERRITE CORE F0002
ATX1072-
D19
J202(26)
ADD1524-
FERRITE CORE F0001
ATX1072-
D20
GND_ADR
NC
VADR
CN1601
AKM1289- -TBB
CN1602
AKM1397- -TBB
AD2
AD1
60F ADDRESS L ASS'Y (ADR2)
AWV2539-
AWW1341
60F ADDRESS L ASS'Y (ADR1)
AWV2539-
AWW1341
D17
D18
D19
D20
CN3505
AKM1397- -TBB
CN3506
AKM1397- -TBB
CN3507
AKM1397- -TBB
CN3508
AKM1397- -TBB
J205
(26)
ADD1527-
AD1(ADR3)
J204
(26)
ADD1526-
AD1(ADR2)
J203
(26)
ADD1525-
AD1(ADR1)
J202
(26)
ADD1524-

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

4
H
FS4_ADJ
FS3_ADJ
FS1_2_ADJ
V_PD
_PD(GND)

CN3201 D11 → CN4101 M4

1→50.V+3_4V_ACT2
2→49.NC
3→48.GND
4→47.MULTI_OE
5→46.RELAY2
6→45.REQ_MD
7→44.RXD_MD
8→43.TXD_MD
9→42.GND
10→41.THEATER
11→40.VD
12→39.HD
13→38.DE
14→37.GND
15→36.CLK
16→35.GND
17→34.R9_EVN
18→33.R8_EVN
19→32.R7_EVN
20→31.R6_EVN
21→30.R5_EVN
22→29.R4_EVN
23→28.R3_EVN
24→27.R2_EVN
25→26.R1_EVN
26→25.R0_EVN
27→24.GND
28→23.G9_EVN
29→22.G8_EVN
30→21.G7_EVN
31→20.G6_EVN
32→19.G5_EVN
33→18.G4_EVN
34→17.G3_EVN
35→16.G2_EVN
36→15.G1_EVN
37→14.G0_EVN
38→13.GND
39→12.B9_EVN
40→11.B8_EVN
41→10.B7_EVN
42→ 9.B6_EVN
43→ 8.B5_EVN
44→ 7.B4_EVN
45→ 6.B3_EVN
46→ 5.B2_EVN
47→ 4.B1_EVN
48→ 3.B0_EVN
49→ 2.GND
50→ 1.MODE_A

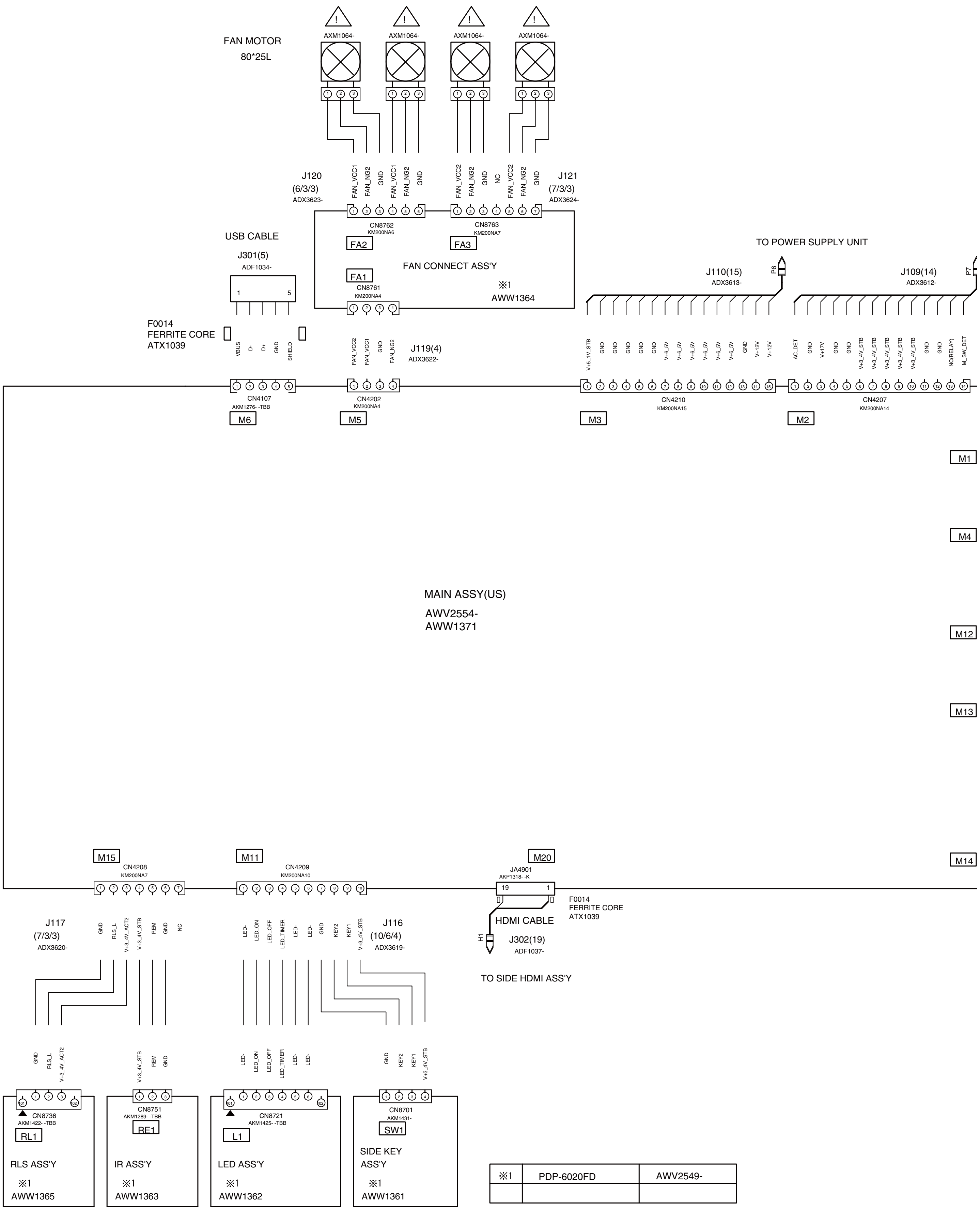
CN3202 D12 → CN4105 M1

1→40.MODE_B
2→39.SQ_SEL
3→38.GND
4→37.GND
5→36.R9_ODD
6→35.R8_ODD
7→34.R7_ODD
8→33.R6_ODD
9→32.R5_ODD
10→31.R4_ODD
11→30.R3_ODD
12→29.R2_ODD
13→28.R1_ODD
14→27.R0_ODD
15→26.GND
16→25.G9_ODD
17→24.G8_ODD
18→23.G7_ODD
19→22.G6_ODD
20→21.G5_ODD
21→20.G4_ODD
22→19.G3_ODD
23→18.G2_ODD
24→17.G1_ODD
25→16.G0_ODD
26→15.GND
27→14.B9_ODD
28→13.B8_ODD
29→12.B7_ODD
30→11.B6_ODD
31→10.B5_ODD
32→ 9.B4_ODD
33→ 8.B3_ODD
34→ 7.B2_ODD
35→ 6.B1_ODD
36→ 5.B0_ODD
37→ 4.GND
38→ 3.GND
39→ 2.GND
40→ 1.MODE_C

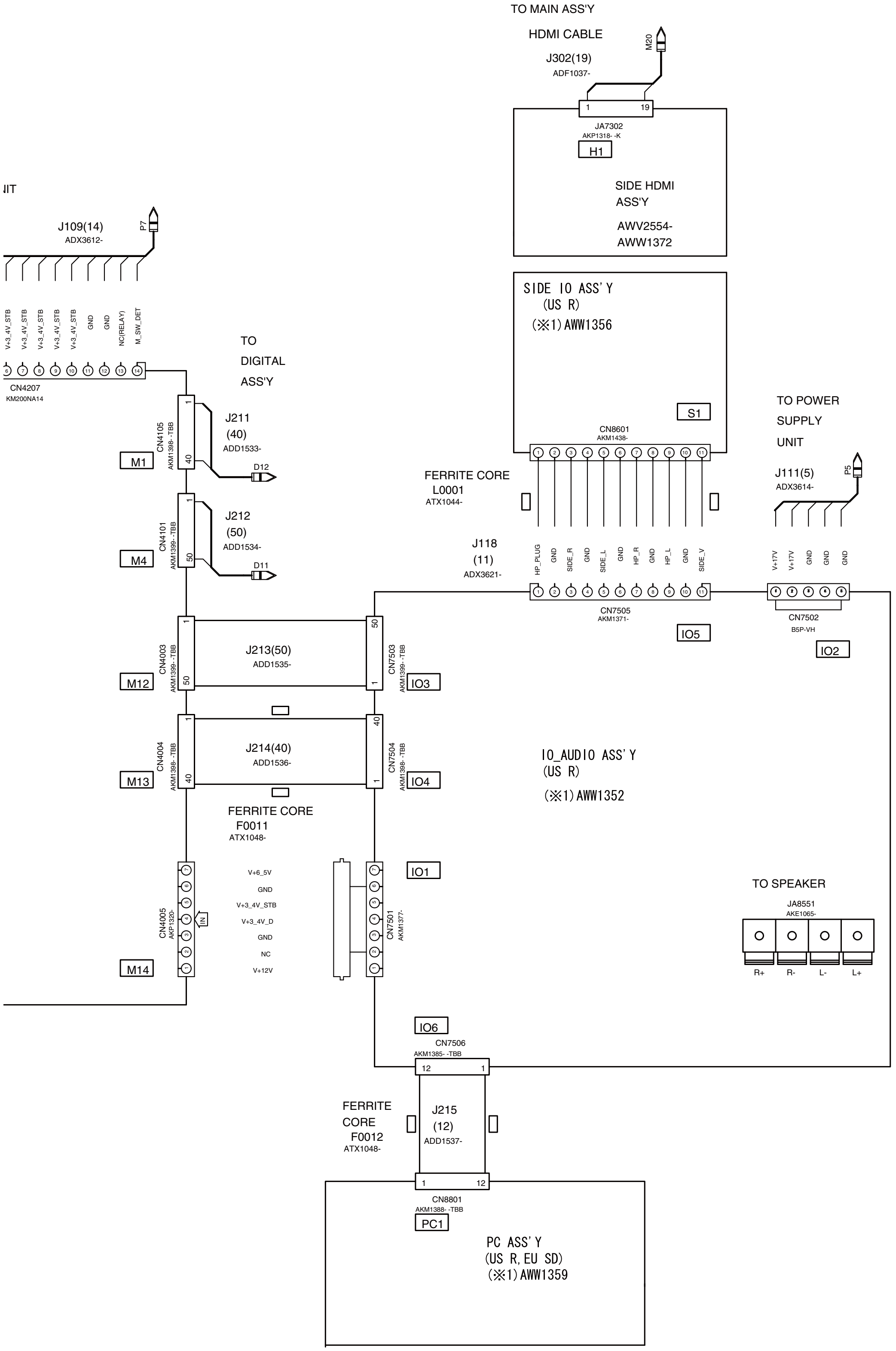
CN3510 D22 → CN1001 X1

1→26.XSUS_B
2→25.GND
3→24.XSUS_U
4→23.GND
5→22.XSUS_D
6→21.GND
7→20.XSUS_G
8→19.GND
9→18.XPRST
10→17.GND
11→16.XKOFS1
12→15.GND
13→14.XKOFS2
14→13.GND
15→12.XSOFT_D
16→11.GND
17→10.SUS_MUTE
18→ 9.GND
19→ 8.XKOFS1_ADJ
20→ 7.XKOFS2_ADJ
21→ 6.GND
22→ 5.XDD_PD
23→ 4.PSW2
24→ 3.XRSV1
25→ 2.Psize
26→ 1.XSUS_PD

4.2 OVERALL WIRING DIAGRAM (2/2)


FAN MOTOR
80*25L
AXM1064-
AXM1064-
AXM1064-
AXM1064-
J120
(6/3/3)
ADX3623-
FAN_VCC1
FAN_NG2
GND
FAN_VCC1
FAN_NG2
GND
FAN_VCC2
FAN_NG2
GND
NC
FAN_VCC2
FAN_NG2
GND
J121
(7/3/3)
ADX3624-
CN8762
KM200NA6
CN8763
KM200NA7
FA2
FA3
FAN CONNECT ASS'Y
FA1
CN8761
KM200NA4
※1
AWW1364
USB CABLE
J301(5)
ADF1034-
F0014
FERRITE CORE
ATX1039
VBUS
D-
D+
GND
SHIELD
FAN_VCC2
FAN_VCC1
GND
FAN_NG2
J119(4)
ADX3622-
TO POWER SUPPLY UNIT
J110(15)
ADX3613-
P6
J109(14)
ADX3612-
P7
V+5_1V_STB
GND
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
V+12V
V+12V
AC_DET
GND
V+17V
GND
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
CN4107
AKM1276- -TBB
M6
CN4202
KM200NA4
M5
CN4210
KM200NA15
M3
CN4207
KM200NA14
M2
M1
M4
MAIN ASSY(US)
AWV2554-
AWW1371
M12
M13
M15
CN4208
KM200NA7
M11
CN4209
KM200NA10
M20
JA4901
AKP1318- -K
19
1
M14
F0014
FERRITE CORE
ATX1039
HDMI CABLE
H1
J302(19)
ADF1037-
TO SIDE HDMI ASS'Y
J117
(7/3/3)
ADX3620-
GND
RLS_L
V+3_4V_ACT2
V+3_4V_STB
REM
GND
NC
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
KEY2
KEY1
V+3_4V_STB
J116
(10/6/4)
ADX3619-
GND
RLS_L
V+3_4V_ACT2
V+3_4V_STB
REM
GND
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
KEY2
KEY1
V+3_4V_STB
CN8736
AKM1422- -TBB
RL1
RLS ASS'Y
※1
AWW1365
CN8751
AKM1289- -TBB
RE1
IR ASS'Y
※1
AWW1363
CN8721
AKM1425- -TBB
L1
LED ASS'Y
※1
AWW1362
CN8701
AKM1431-
SW1
SIDE KEY
ASS'Y
※1
AWW1361

※1	PDP-6020FD	AWV2549-


TO MAIN ASS'Y
HDMI CABLE
J302(19)
ADF1037-
M20
1
19
JA7302
AKP1318- -K
H1
SIDE HDMI
ASS'Y
AWV2554-
AWW1372
SIDE IO ASS'Y
(US R)
(※1)AWW1356
S1
CN8601
AKM1438-
NIT
J109(14)
ADX3612-
P7
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
CN4207
KM200NA14
TO
DIGITAL
ASS'Y
CN4105
AKM1398- -TBB
M1
J211
(40)
ADD1533-
D12
CN4101
AKM1399- -TBB
M4
J212
(50)
ADD1534-
D11
FERRITE CORE
L0001
ATX1044-
J118
(11)
ADX3621-
HP_PLUG
GND
SIDE_R
GND
SIDE_L
GND
HP_R
GND
HP_L
GND
SIDE_V
CN7505
AKM1371-
IO5
TO POWER
SUPPLY
UNIT
J111(5)
ADX3614-
P5
V+17V
V+17V
GND
GND
GND
CN7502
B5P-VH
IO2
CN4003
AKM1399- -TBB
M12
J213(50)
ADD1535-
CN7503
AKM1399- -TBB
IO3
CN4004
AKM1398- -TBB
M13
J214(40)
ADD1536-
CN7504
AKM1398- -TBB
IO4
IO_AUDIO ASS'Y
(US R)
(※1)AWW1352
FERRITE CORE
F0011
ATX1048-
CN4005
AKP1320-
IN
M14
V+6_5V
GND
V+3_4V_STB
V+3_4V_D
GND
NC
V+12V
CN7501
AKM1377-
IO1
TO SPEAKER
JA8551
AKE1065-
R+
R-
L-
L+
IO6
CN7506
AKM1385- -TBB
12
1
FERRITE
CORE
F0012
ATX1048-
J215
(12)
ADD1537-
1
12
CN8801
AKM1388- -TBB
PC1
PC ASS'Y
(US R, EU SD)
(※1)AWW1359

CONNECTOR PIN ASSIGN

CN4003 M12 → CN7503 IO3

1→50. GND
2→49. HP_PLUG
3→48. WP_EDID
4→47. DSUB_DET
5→46. AC_HP_MUTE
6→45. GND
7→44. SDA_AV
8→43. SCL_AV
9→42. GND
10→41. AC_A_MUTE
11→40. RST_MSP
12→39. OTW
13→38. A_NG_B
14→37. GND
15→36. I2S_BCLK_DTV
16→35. GND
17→34. I2S_LRCLK_DTV
18→33. I2S_SDATA_DTV
19→32. GND
20→31. GND
21→30. GND
22→29. SPDIF_HDMI
23→28. GND
24→27. GND
25→26. SPDIF_DTV
26→25. GND
27→24. EMMA_DA_GY
28→23. EMMA_DA_BCB
29→22. EMMA_DA_RCR
30→21. GND
31→20. EXT_HD
32→19. EXT_VD
33→18. INT_VD
34→17. INT_HD
35→16. NC
36→15. CLP_RGB2
37→14. GND
38→13. SDA_AV5
39→12. SCL_AV5
40→11. GND
41→10. SR_OUT
42→ 9. NC
43→ 8. NC
44→ 7. GND
45→ 6. TXD_232C_1
46→ 5. RXD_232C_1
47→ 4. NC(232C_EN_B)
48→ 3. 232C_DET
49→ 2. RST4
50→ 1. GND(IO_DET)

CN4004 M13 → CN7504 IO4

1→40. GND
2→39. RCR_AD
3→38. GND
4→37. BCB_AD
5→36. GND
6→35. GY_AD
7→34. GND
8→33. NC
9→32. GND
10→31. NC
11→30. GND
12→29. NC
13→28. GND
14→27. NC
15→26. GND
16→25. NC
17→24. GND
18→23. MAIN_C
19→22. GND
20→21. MAIN_Y
21→20. GND
22→19. SUB_C
23→18. GND
24→17. SUB_Y
25→16. GND
26→15. A_TUNER_V
27→14. GND
28→13. AIR_L
29→12. GND
30→11. AIR_R
31→10. GND
32→ 9. AC_AM_MUTE
33→ 8. TEMP2
34→ 7. NC
35→ 6. NC
36→ 5. NC
37→ 4. NC
38→ 3. MODEL_DET1
39→ 2. IR_OUT
40→ 1. GND

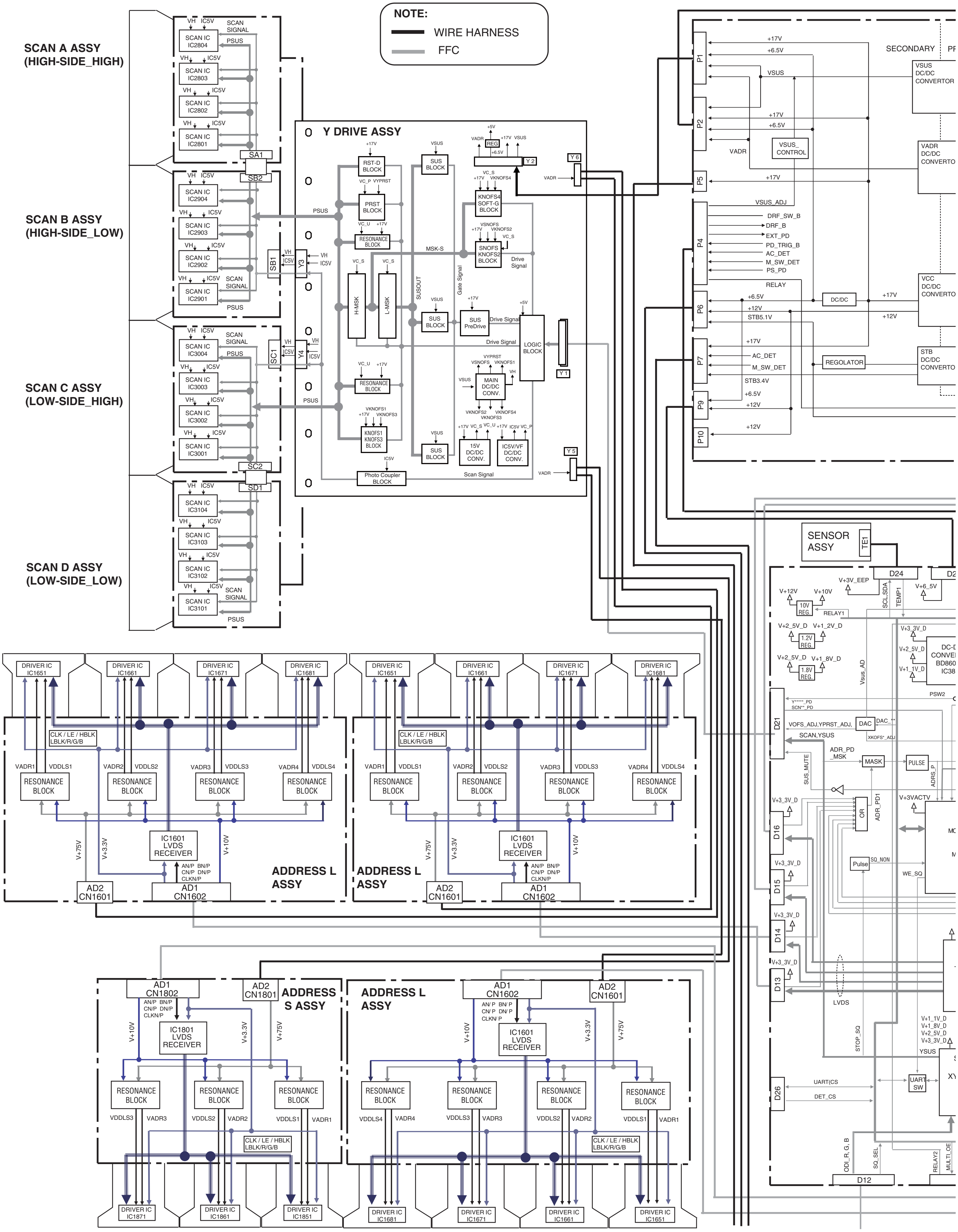
CN7506 IO6 → CN8801 PC1

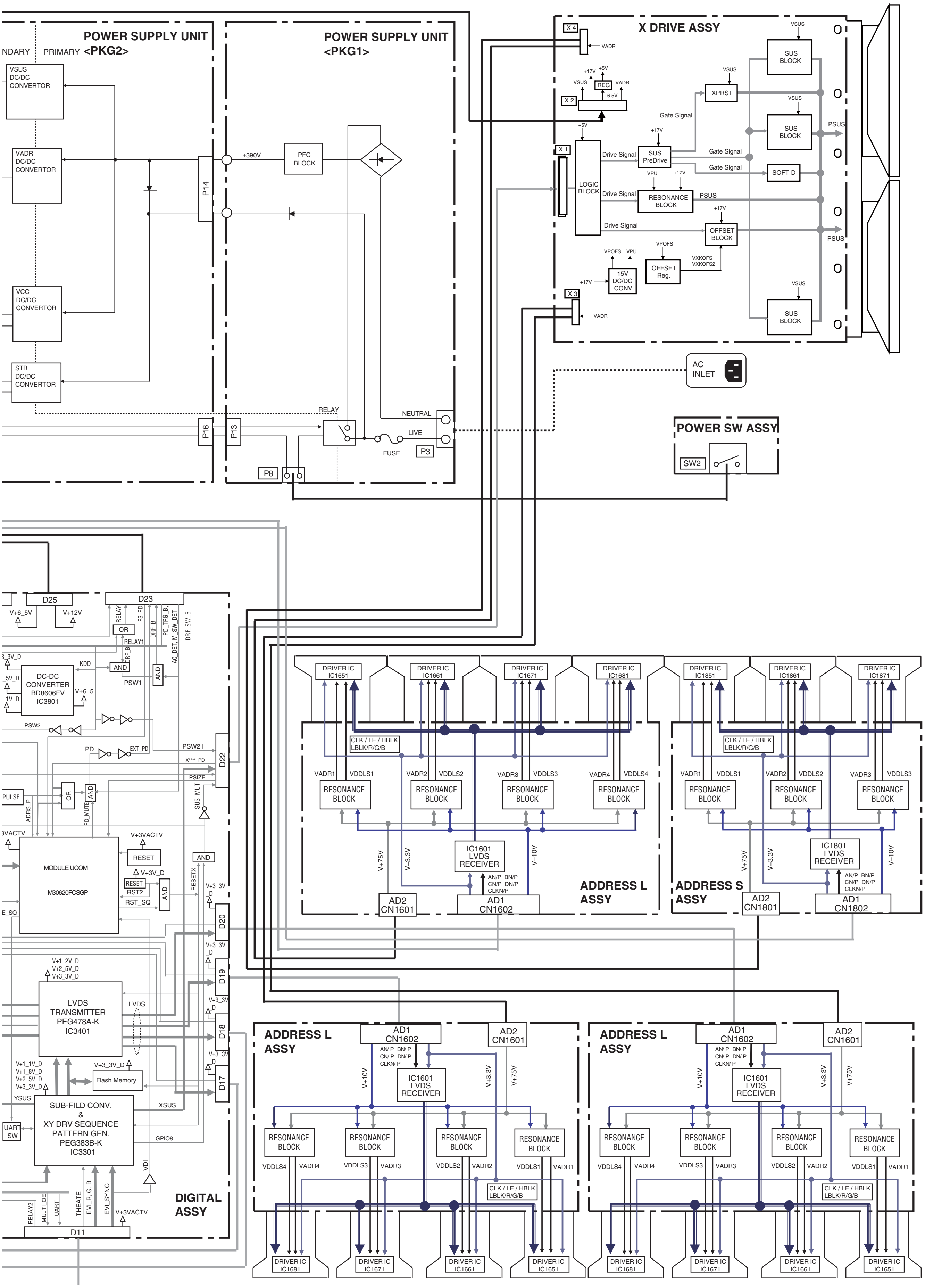
1→12. V+3_4V_D
2→11. PC_HD
3→10. PC_VD
4→ 9. GND
5→ 8. PC_R
6→ 7. GND
7→ 6. PC_B
8→ 5. GND
9→ 4. PC_G
10→ 3. WP_EDID
11→ 2. V+5V_IO
12→ 1. GND

JA4901 M20 → JA7302 H1

1. D2+
2. GND
3. D2−
4. D1+
5. GND
6. D1−
7. D0+
8. GND
9. D0−
10. CLK+
11. GND
12. CLK−
13. CEC
14. V+3_4_D4
15. SCL
16. SDA
17. WP_EDID
18. V+DDC5V_1
19. HDMI_P_SIDE

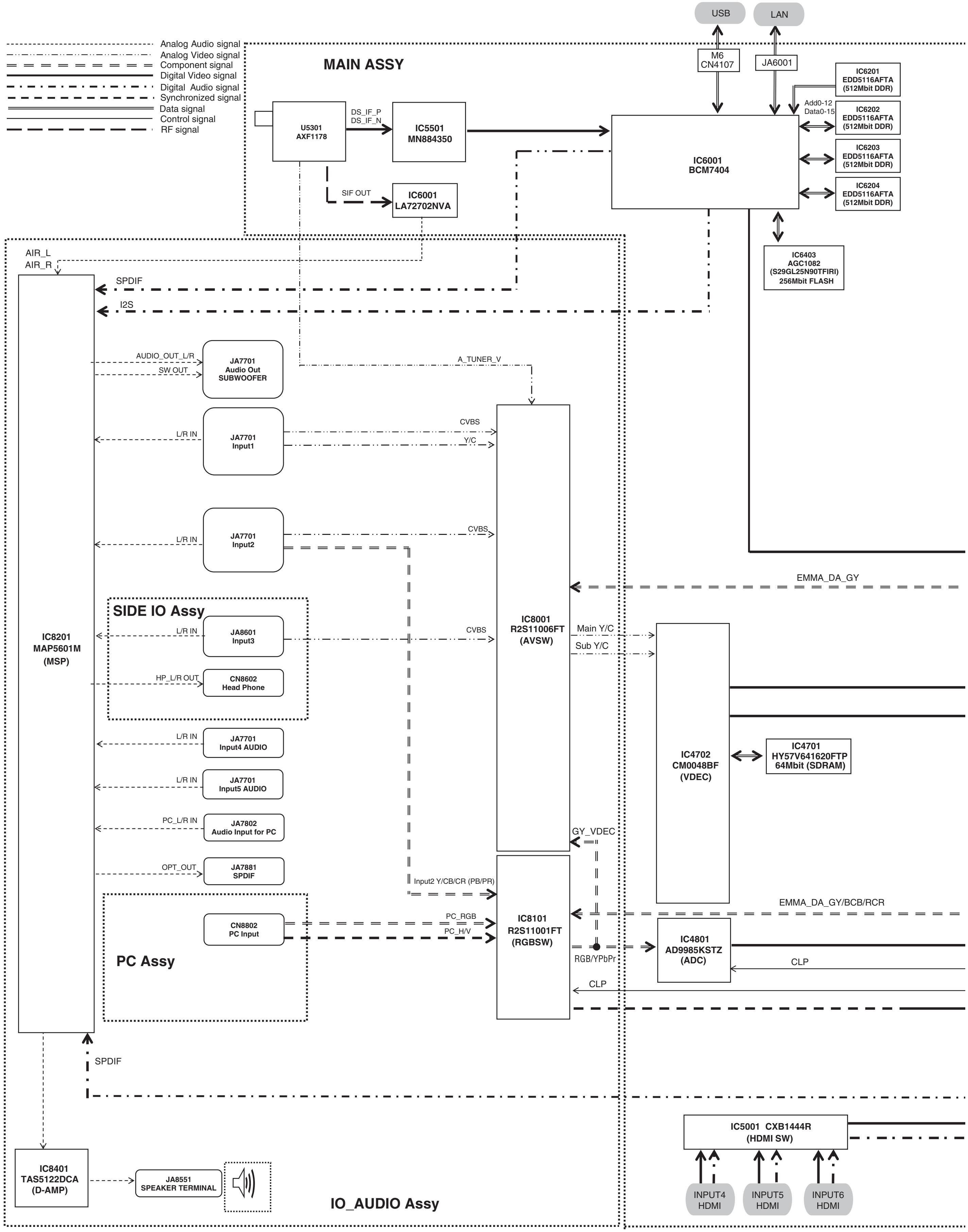
4.3 OVERALL BLOCK DIAGRAM (1/2)

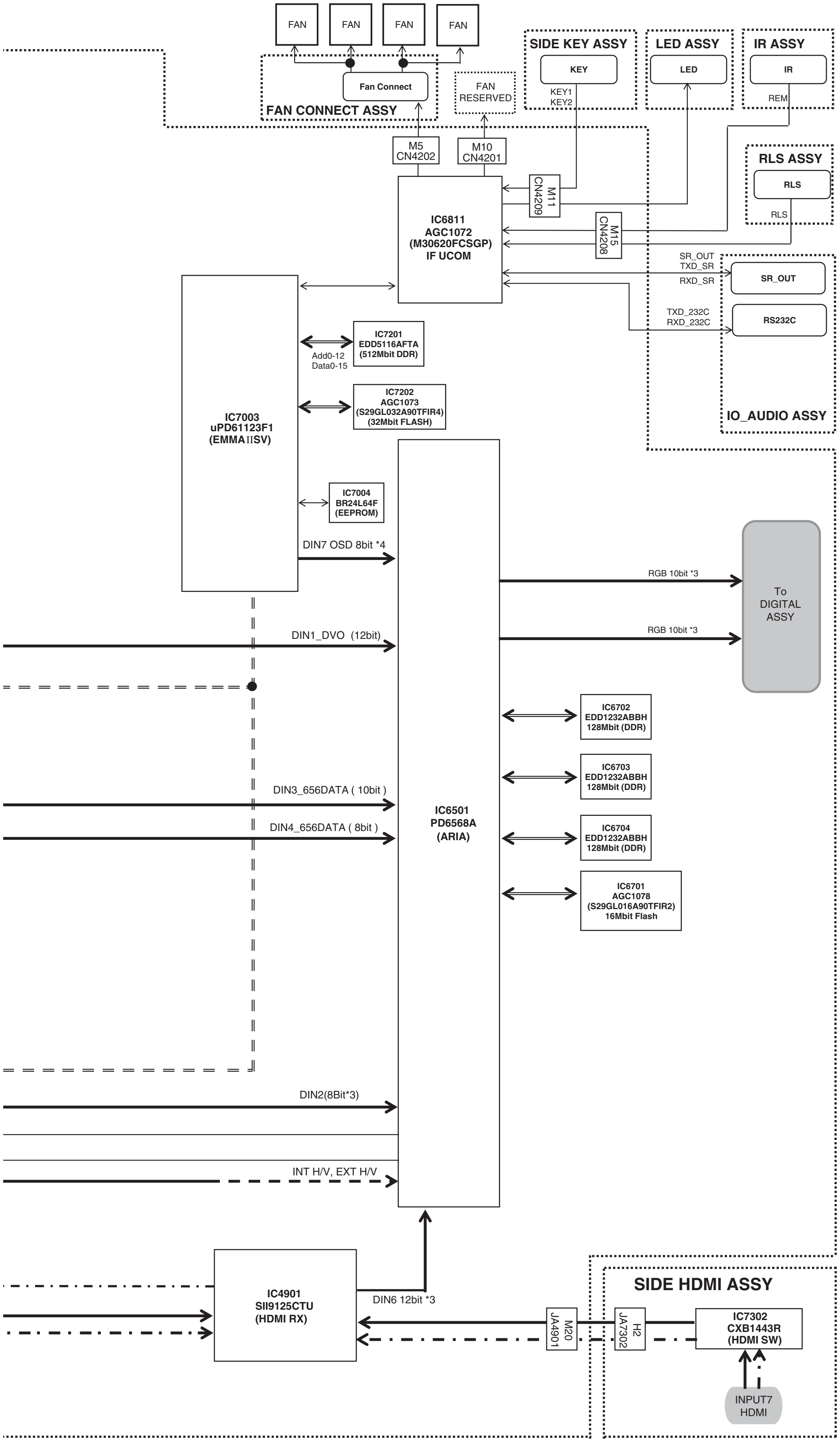

A
B
C
D
E
F
NOTE:
WIRE HARNESS
FFC
SCAN A ASSY
(HIGH-SIDE_HIGH)
SCAN IC IC2804
SCAN IC IC2803
SCAN IC IC2802
SCAN IC IC2801
SCAN B ASSY
(HIGH-SIDE_LOW)
SCAN IC IC2904
SCAN IC IC2903
SCAN IC IC2902
SCAN IC IC2901
SCAN C ASSY
(LOW-SIDE_HIGH)
SCAN IC IC3004
SCAN IC IC3003
SCAN IC IC3002
SCAN IC IC3001
SCAN D ASSY
(LOW-SIDE_LOW)
SCAN IC IC3104
SCAN IC IC3103
SCAN IC IC3102
SCAN IC IC3101
VH
IC5V
SCAN SIGNAL
PSUS
SA1
SB1
SB2
SC1
SC2
SD1
Y DRIVE ASSY
Y1
Y2
Y3
Y4
Y5
Y6
RST-D BLOCK
PRST BLOCK
RESONANCE BLOCK
H-MSK
L-MSK
MSK-S
SUSOUT
Gate Signal
SUS BLOCK
SUS PreDrive
Drive Signal
LOGIC BLOCK
KNOFS4 SOFT-G BLOCK
SNOFS KNOFS2 BLOCK
KNOFS1 KNOFS3 BLOCK
MAIN DC/DC CONV.
15V DC/DC CONV.
IC5V/VF DC/DC CONV.
Photo Coupler BLOCK
Scan Signal
REG
VADR
VSUS
+17V
+6.5V
+5V
+12V
VC_S
VC_P
VC_U
VYPRST
VKNOFS1
VKNOFS2
VKNOFS3
VKNOFS4
VSNOFS
P1
P2
P4
P5
P6
P7
P9
P10
SECONDARY
VSUS DC/DC CONVERTOR
VSUS_ CONTROL
VADR DC/DC CONVERTOR
VCC DC/DC CONVERTOR
STB DC/DC CONVERTOR
DC/DC
REGOLATOR
VSUS_ADJ
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
STB5.1V
STB3.4V
SENSOR ASSY
TE1
D12
D13
D14
D15
D16
D21
D24
D26
V+3V_EEP
V+12V
V+10V
10V REG
RELAY1
V+2_5V_D
V+1_2V_D
1.2V REG
V+1_8V_D
1.8V REG
V+6_5V
SCL,SDA
TEMP1
V+3_3V_D
DC-DC CONVE BD860 IC38
Vsus_AD
PSW2
Y*****_PD
SCN**_PD
VOFS_ADJ,YPRST_ADJ,
DAC
XKOFS*_ADJ
SCAN,YSUS
ADR_PD _MSK
MASK
PULSE
SUS_MUTE
ADRS_P
OR
ADR_PD1
V+3VACTV
Pulse
SQ_NON
WE_SQ
LVDS
STOP_SQ
V+1_1V_D
V+1_8V_D
V+2_5V_D
V+3_3V_D
YSUS
UART SW
UART(CS
DET_CS
ODI_R, G, B
SQ_SEL
RELAY2
MULTI_OE
DRIVER IC IC1651
DRIVER IC IC1661
DRIVER IC IC1671
DRIVER IC IC1681
CLK / LE / HBLK
LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
V+75V
V+3.3V
V+10V
IC1601 LVDS RECEIVER
AN/P BN/P
CN/P DN/P
CLKN/P
AD2 CN1601
AD1 CN1602
ADDRESS L ASSY
AD1 CN1802
AD2 CN1801
ADDRESS S ASSY
IC1801 LVDS RECEIVER
DRIVER IC IC1871
DRIVER IC IC1861
DRIVER IC IC1851



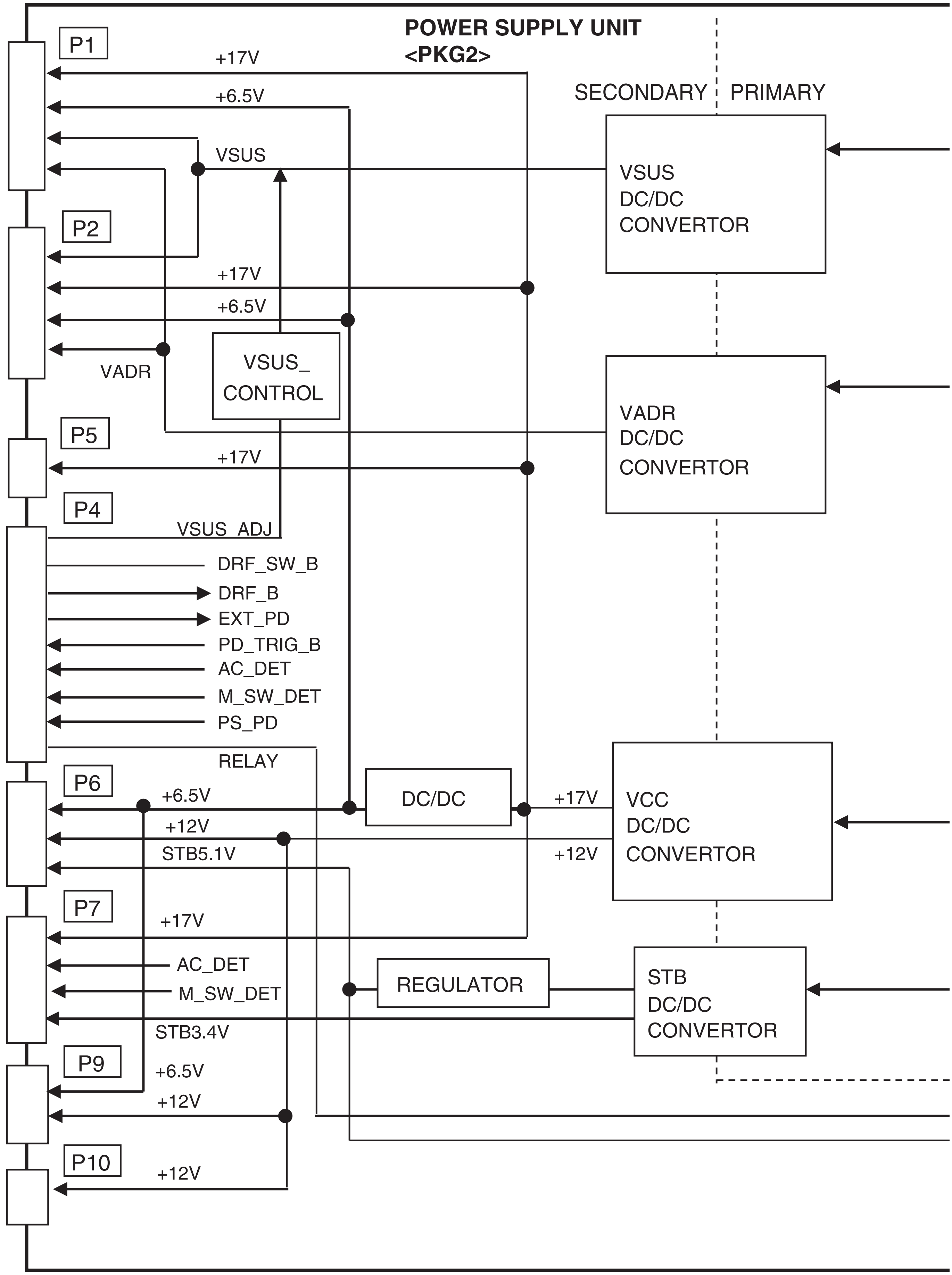
POWER SUPPLY UNIT
PRIMARY <PKG2>
NDARY
POWER SUPPLY UNIT
<PKG1>
VSUS DC/DC CONVERTOR
VADR DC/DC CONVERTOR
VCC DC/DC CONVERTOR
STB DC/DC CONVERTOR
+390V
PFC BLOCK
P14
P16
P13
P8
P3
RELAY
NEUTRAL
LIVE
FUSE
X DRIVE ASSY
X 4
X 2
X 1
X 3
VADR
VSUS
REG
+17V
+5V
+6.5V
+5V
LOGIC BLOCK
Drive Signal
SUS PreDrive
Gate Signal
XPRST
SUS BLOCK
SOFT-D
RESONANCE BLOCK
PSUS
OFFSET BLOCK
VPU
VPOFS
15V DC/DC CONV.
OFFSET Reg.
VXKOFS1
VXKOFS2
AC INLET
POWER SW ASSY
SW2
D25
D23
V+6_5V
V+12V
RELAY
PS_PD
OR
RELAY1
DRF_B
PD_TRG_B
AC_DET
M_SW_DET
DRF_SW_B
KDD
AND
DC-DC CONVERTER BD8606FV IC3801
V+6_5
PSW1
PSW2
PD
EXT_PD
PSW21
X****_PD
PSIZE
D22
PULSE
ADRS_P
PD_MUTE
SUS_MUT
V+3VACTV
RESET
V+3V_D
RST2
RST_SQ
RESETX
MODULE UCOM M30620FCSGP
E_SQ
V+3_3V_D
D20
D19
D18
D17
V+1_2V_D
V+2_5V_D
LVDS TRANSMITTER PEG478A-K IC3401
LVDS
V+1_1V_D
V+1_8V_D
Flash Memory
YSUS
XSUS
UART SW
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN. PEG383B-K IC3301
GPIO8
VDI
RELAY2
MULTI_OE
UART
THEATE
EVI_R, G, B
EVI_SYNC
D11
DIGITAL ASSY
DRIVER IC IC1651
DRIVER IC IC1661
DRIVER IC IC1671
DRIVER IC IC1681
DRIVER IC IC1851
DRIVER IC IC1861
DRIVER IC IC1871
CLK / LE / HBLK LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
V+75V
V+3.3V
V+10V
IC1601 LVDS RECEIVER
IC1801 LVDS RECEIVER
AN/P BN/P CN/P DN/P CLKN/P
AD2 CN1601
AD1 CN1602
AD2 CN1801
AD1 CN1802
ADDRESS L ASSY
ADDRESS S ASSY
5
6
7
8
A
B
C
D
E
F

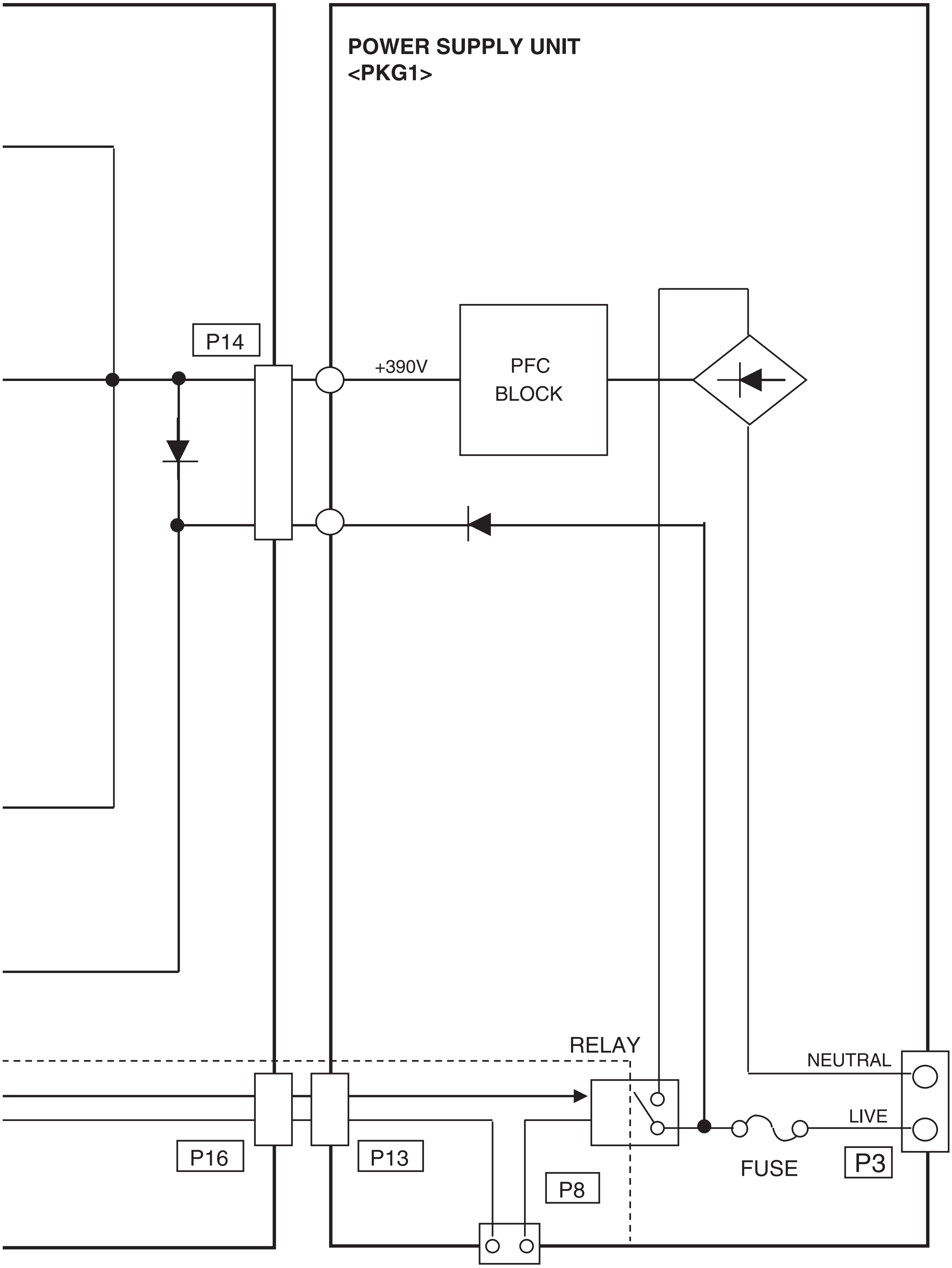
4.4 OVERALL BLOCK DIAGRAM (2/2)


Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
MAIN ASSY
USB
LAN
M6
CN4107
JA6001
U5301
AXF1178
DS_IF_P
DS_IF_N
IC5501
MN884350
SIF OUT
IC6001
LA72702NVA
IC6001
BCM7404
Add0-12
Data0-15
IC6201
EDD5116AFTA
(512Mbit DDR)
IC6202
EDD5116AFTA
(512Mbit DDR)
IC6203
EDD5116AFTA
(512Mbit DDR)
IC6204
EDD5116AFTA
(512Mbit DDR)
IC6403
AGC1082
(S29GL25N90TFIRI)
256Mbit FLASH
AIR_L
AIR_R
SPDIF
I2S
AUDIO_OUT_L/R
SW OUT
JA7701
Audio Out
SUBWOOFER
A_TUNER_V
L/R IN
JA7701
Input1
CVBS
Y/C
L/R IN
JA7701
Input2
CVBS
EMMA_DA_GY
SIDE IO Assy
L/R IN
JA8601
Input3
CVBS
HP_L/R OUT
CN8602
Head Phone
IC8201
MAP5601M
(MSP)
IC8001
R2S11006FT
(AVSW)
Main Y/C
Sub Y/C
IC4702
CM0048BF
(VDEC)
IC4701
HY57V641620FTP
64Mbit (SDRAM)
L/R IN
JA7701
Input4 AUDIO
L/R IN
JA7701
Input5 AUDIO
PC_L/R IN
JA7802
Audio Input for PC
GY_VDEC
OPT_OUT
JA7881
SPDIF
Input2 Y/CB/CR (PB/PR)
EMMA_DA_GY/BCB/RCR
CN8802
PC Input
PC_RGB
PC_H/V
IC8101
R2S11001FT
(RGBSW)
IC4801
AD9985KSTZ
(ADC)
RGB/YPbPr
CLP
CLP
PC Assy
SPDIF
IC5001 CXB1444R
(HDMI SW)
IC8401
TAS5122DCA
(D-AMP)
JA8551
SPEAKER TERMINAL
IO_AUDIO Assy
INPUT4
HDMI
INPUT5
HDMI
INPUT6
HDMI

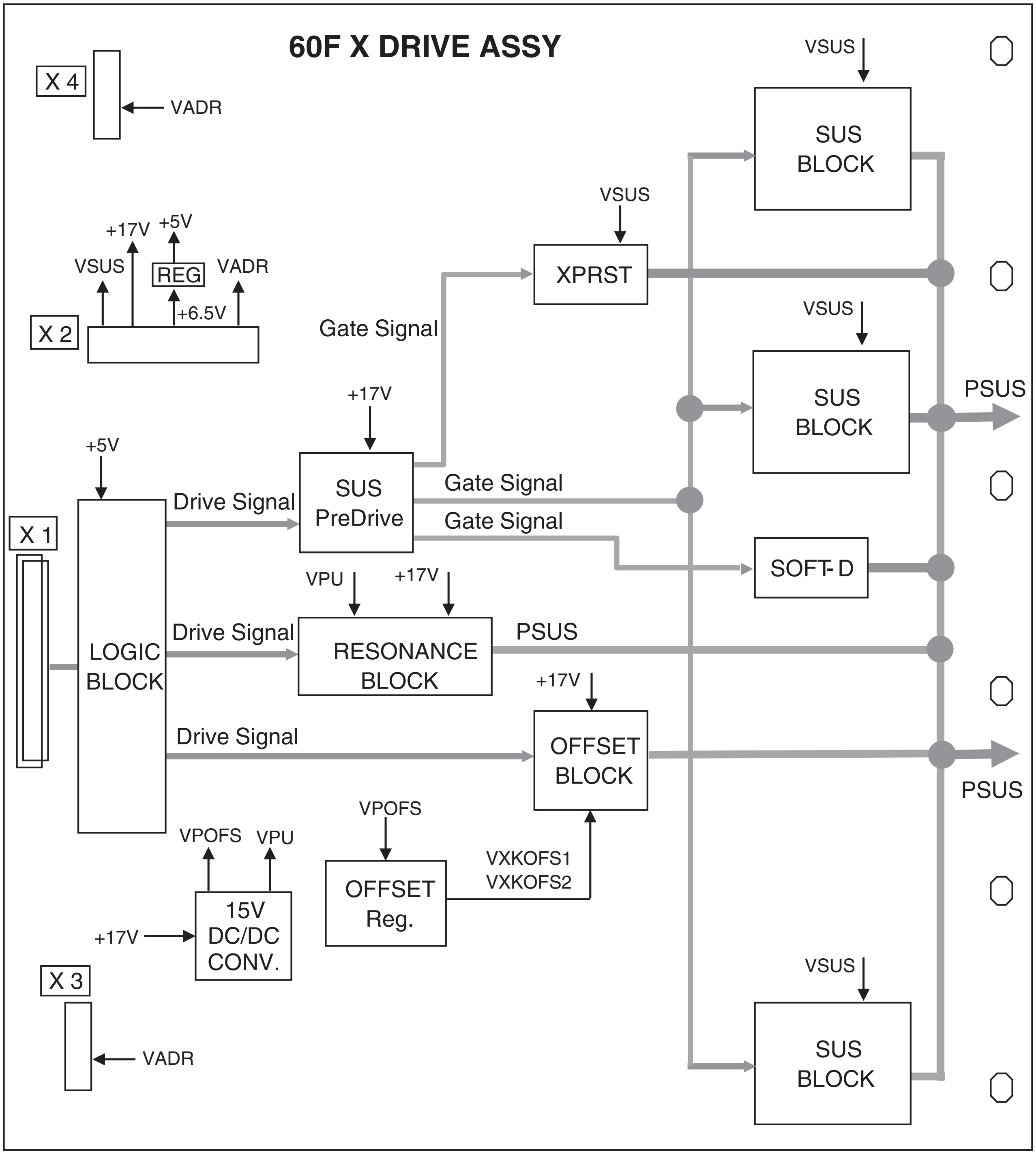

FAN
FAN
FAN
FAN
Fan Connect
FAN CONNECT ASSY
FAN
RESERVED
SIDE KEY ASSY
KEY
KEY1
KEY2
LED ASSY
LED
IR ASSY
IR
REM
M5
CN4202
M10
CN4201
M11
CN4209
RLS ASSY
RLS
RLS
M15
CN4208
IC6811
AGC1072
(M30620FCSGP)
IF UCOM
SR_OUT
TXD_SR
RXD_SR
SR_OUT
TXD_232C
RXD_232C
RS232C
IO_AUDIO ASSY
IC7201
EDD5116AFTA
(512Mbit DDR)
Add0-12
Data0-15
IC7202
AGC1073
(S29GL032A90TFIR4)
(32Mbit FLASH)
IC7003
uPD61123F1
(EMMA IISV)
IC7004
BR24L64F
(EEPROM)
DIN7 OSD 8bit *4
RGB 10bit *3
RGB 10bit *3
To
DIGITAL
ASSY
DIN1_DVO (12bit)
IC6702
EDD1232ABBH
128Mbit (DDR)
IC6703
EDD1232ABBH
128Mbit (DDR)
DIN3_656DATA (10bit)
DIN4_656DATA (8bit)
IC6501
PD6568A
(ARIA)
IC6704
EDD1232ABBH
128Mbit (DDR)
IC6701
AGC1078
(S29GL016A90TFIR2)
16Mbit Flash
DIN2(8Bit*3)
INT H/V, EXT H/V
SIDE HDMI ASSY
IC4901
SII9125CTU
(HDMI RX)
DIN6 12bit *3
M20
JA4901
H2
JA7302
IC7302
CXB1443R
(HDMI SW)
INPUT7
HDMI

4.5 POWER SUPPLY UNIT

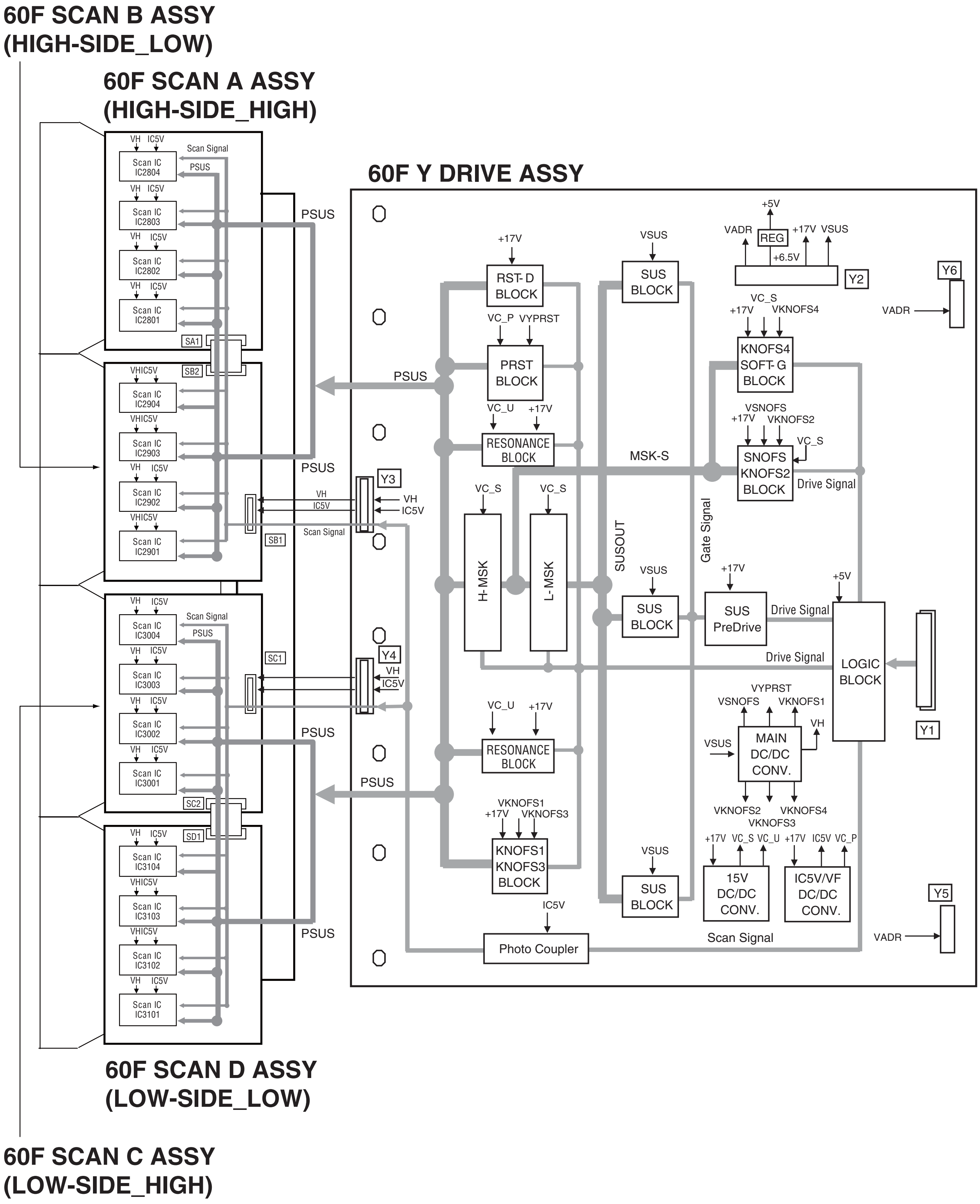

POWER SUPPLY UNIT
<PKG2>
SECONDARY
PRIMARY
P1
+17V
+6.5V
VSUS
VSUS DC/DC CONVERTOR
P2
+17V
+6.5V
VADR
VSUS_ CONTROL
VADR DC/DC CONVERTOR
P5
+17V
P4
VSUS_ADJ
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
P6
+6.5V
+12V
STB5.1V
DC/DC
+17V
+12V
VCC DC/DC CONVERTOR
P7
+17V
AC_DET
M_SW_DET
STB3.4V
REGULATOR
STB DC/DC CONVERTOR
P9
+6.5V
+12V
P10
+12V
A
B
C
D
E
F


POWER SUPPLY UNIT
<PKG1>
P14
+390V
PFC
BLOCK
RELAY
NEUTRAL
LIVE
FUSE
P16
P13
P8
P3

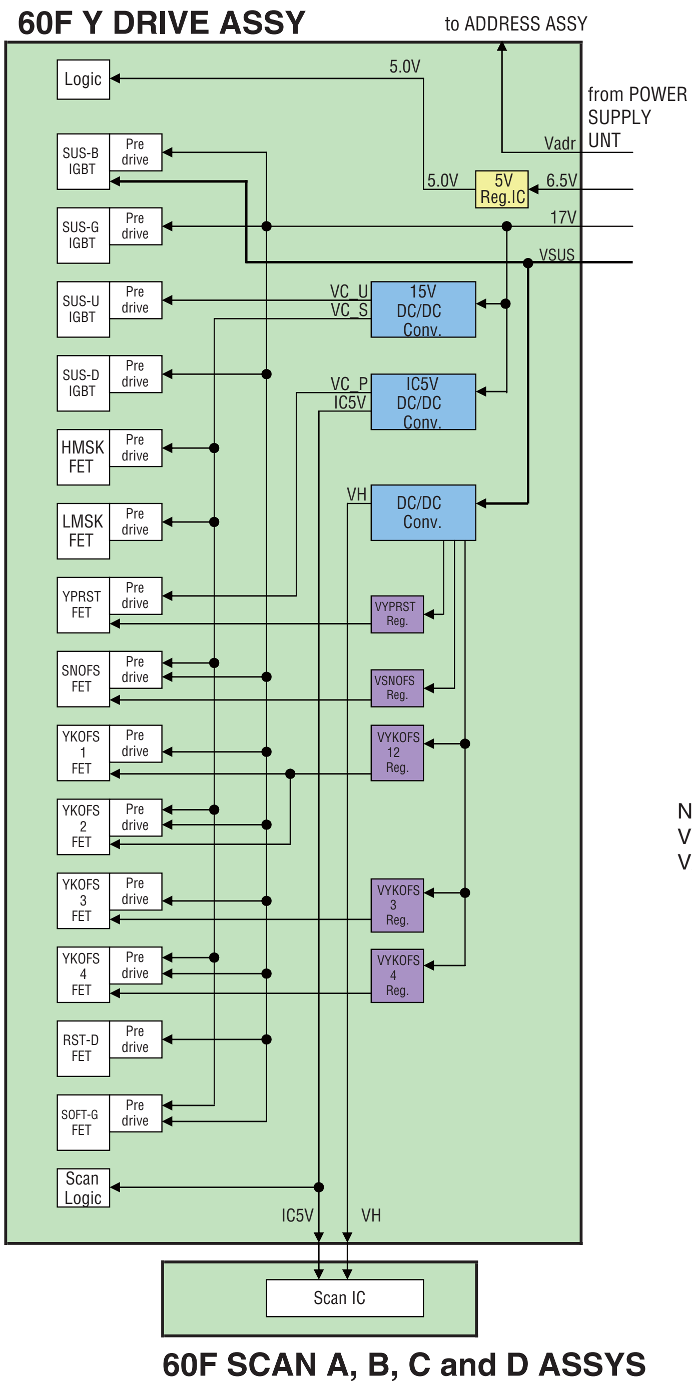
4.6 60F X DRIVE ASSY

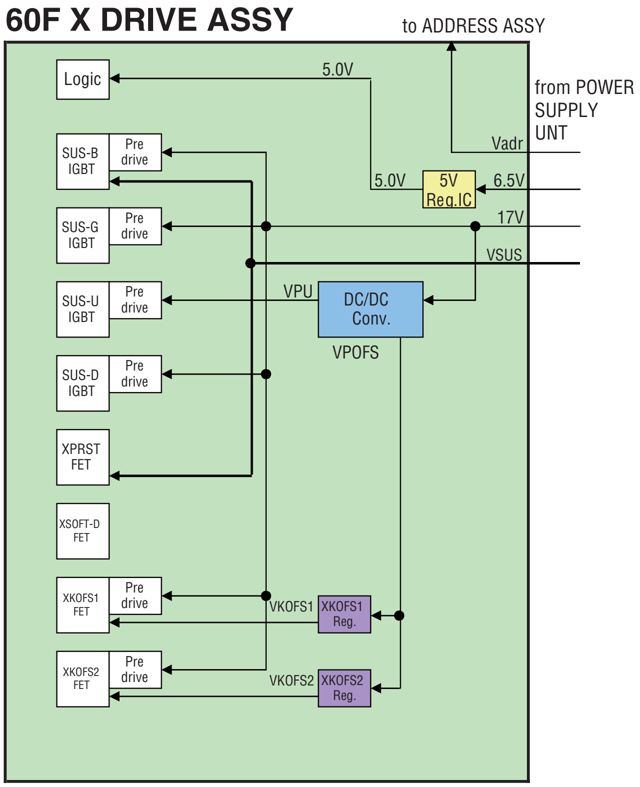

60F X DRIVE ASSY
X 4
VADR
VSUS
SUS BLOCK
VSUS
XPRST
+17V
+5V
VSUS
REG
VADR
+6.5V
X 2
Gate Signal
VSUS
SUS BLOCK
PSUS
+17V
+5V
SUS PreDrive
Gate Signal
Gate Signal
Drive Signal
X 1
SOFT- D
VPU
+17V
Drive Signal
PSUS
LOGIC BLOCK
RESONANCE BLOCK
+17V
Drive Signal
OFFSET BLOCK
PSUS
VPOFS
VPOFS
VPU
VXKOFS1
VXKOFS2
OFFSET Reg.
+17V
15V DC/DC CONV.
X 3
VSUS
VADR
SUS BLOCK

4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS


60F SCAN B ASSY
(HIGH-SIDE_LOW)
60F SCAN A ASSY
(HIGH-SIDE_HIGH)
60F SCAN D ASSY
(LOW-SIDE_LOW)
60F SCAN C ASSY
(LOW-SIDE_HIGH)
60F Y DRIVE ASSY
VH
IC5V
VHIC5V
Scan IC IC2804
Scan IC IC2803
Scan IC IC2802
Scan IC IC2801
Scan IC IC2904
Scan IC IC2903
Scan IC IC2902
Scan IC IC2901
Scan IC IC3004
Scan IC IC3003
Scan IC IC3002
Scan IC IC3001
Scan IC IC3104
Scan IC IC3103
Scan IC IC3102
Scan IC IC3101
Scan Signal
PSUS
SA1
SB2
SB1
SC1
SC2
SD1
Y1
Y2
Y3
Y4
Y5
Y6
+5V
VADR
REG
+17V
VSUS
+6.5V
VC_S
VKNOFS4
VC_P
VYPRST
VC_U
RST-D BLOCK
PRST BLOCK
RESONANCE BLOCK
SUS BLOCK
KNOFS4 SOFT-G BLOCK
VSNOFS
VKNOFS2
SNOFS KNOFS2 BLOCK
MSK-S
Drive Signal
H-MSK
L-MSK
SUSOUT
Gate Signal
SUS PreDrive
LOGIC BLOCK
VKNOFS1
MAIN DC/DC CONV.
KNOFS1 KNOFS3 BLOCK
VKNOFS3
15V DC/DC CONV.
IC5V/VF DC/DC CONV.
Photo Coupler

4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS

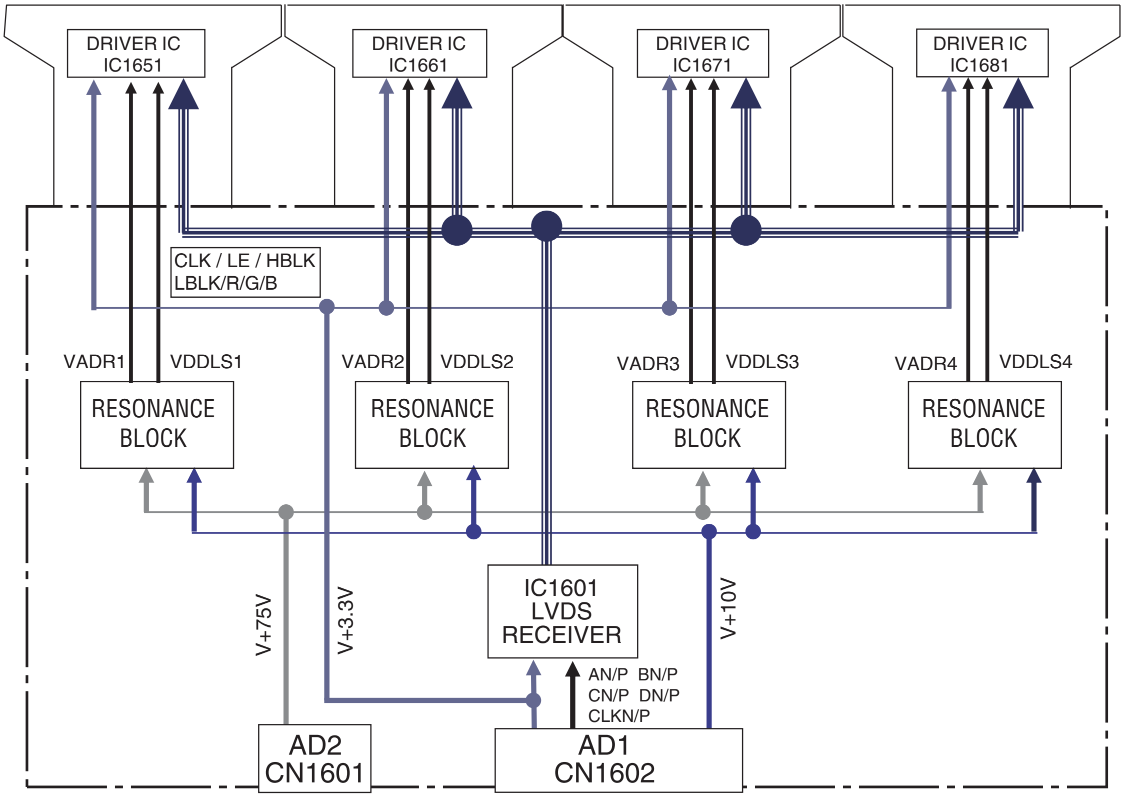

60F Y DRIVE ASSY
to ADDRESS ASSY
from POWER SUPPLY UNT
Logic
5.0V
Vadr
5.0V
5V Reg.IC
6.5V
17V
VSUS
SUS-B IGBT
SUS-G IGBT
SUS-U IGBT
SUS-D IGBT
HMSK FET
LMSK FET
YPRST FET
SNOFS FET
YKOFS 1 FET
YKOFS 2 FET
YKOFS 3 FET
YKOFS 4 FET
RST-D FET
SOFT-G FET
Pre drive
Scan Logic
VC_U
VC_S
15V DC/DC Conv.
VC_P
IC5V
IC5V DC/DC Conv.
VH
DC/DC Conv.
VYPRST Reg.
VSNOFS Reg.
VYKOFS 12 Reg.
VYKOFS 3 Reg.
VYKOFS 4 Reg.
IC5V
VH
Scan IC
60F SCAN A, B, C and D ASSYS


60F X DRIVE ASSY
to ADDRESS ASSY
from POWER SUPPLY UNT
Logic
5.0V
Vadr
5.0V
5V Reg.IC
6.5V
17V
VSUS
SUS-B IGBT
SUS-G IGBT
SUS-U IGBT
SUS-D IGBT
XPRST FET
XSOFT-D FET
XKOFS1 FET
XKOFS2 FET
Pre drive
VPU
DC/DC Conv.
VPOFS
VKOFS1
XKOFS1 Reg.
VKOFS2
XKOFS2 Reg.

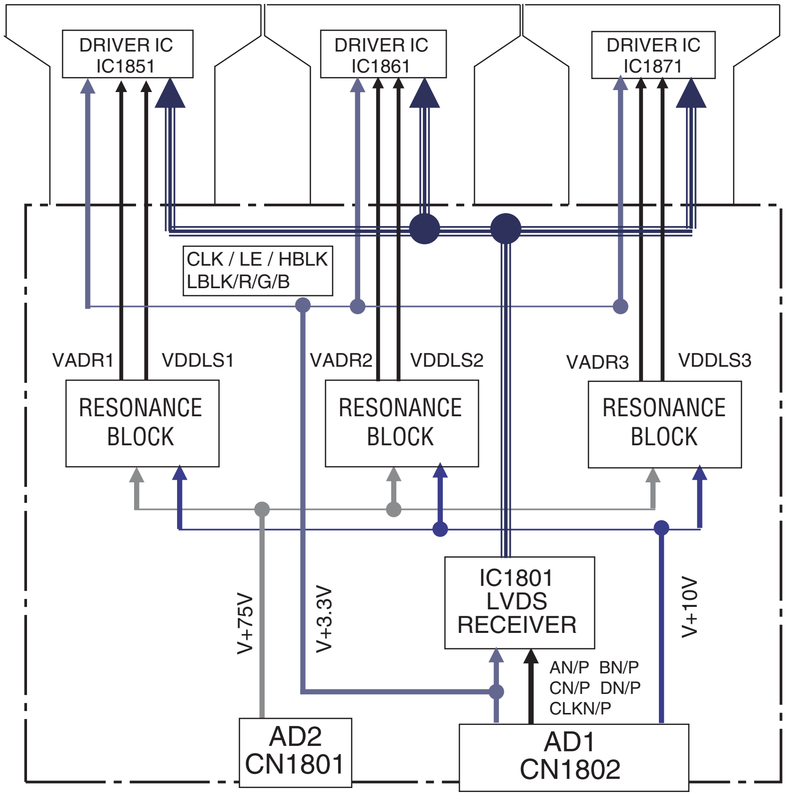
Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4
VXKOFS1 and VXKOFS2 voltages are electrical volume controls.

4.9 60F ADDRESS L and S ASSYS

60F ADDRESS L ASSY

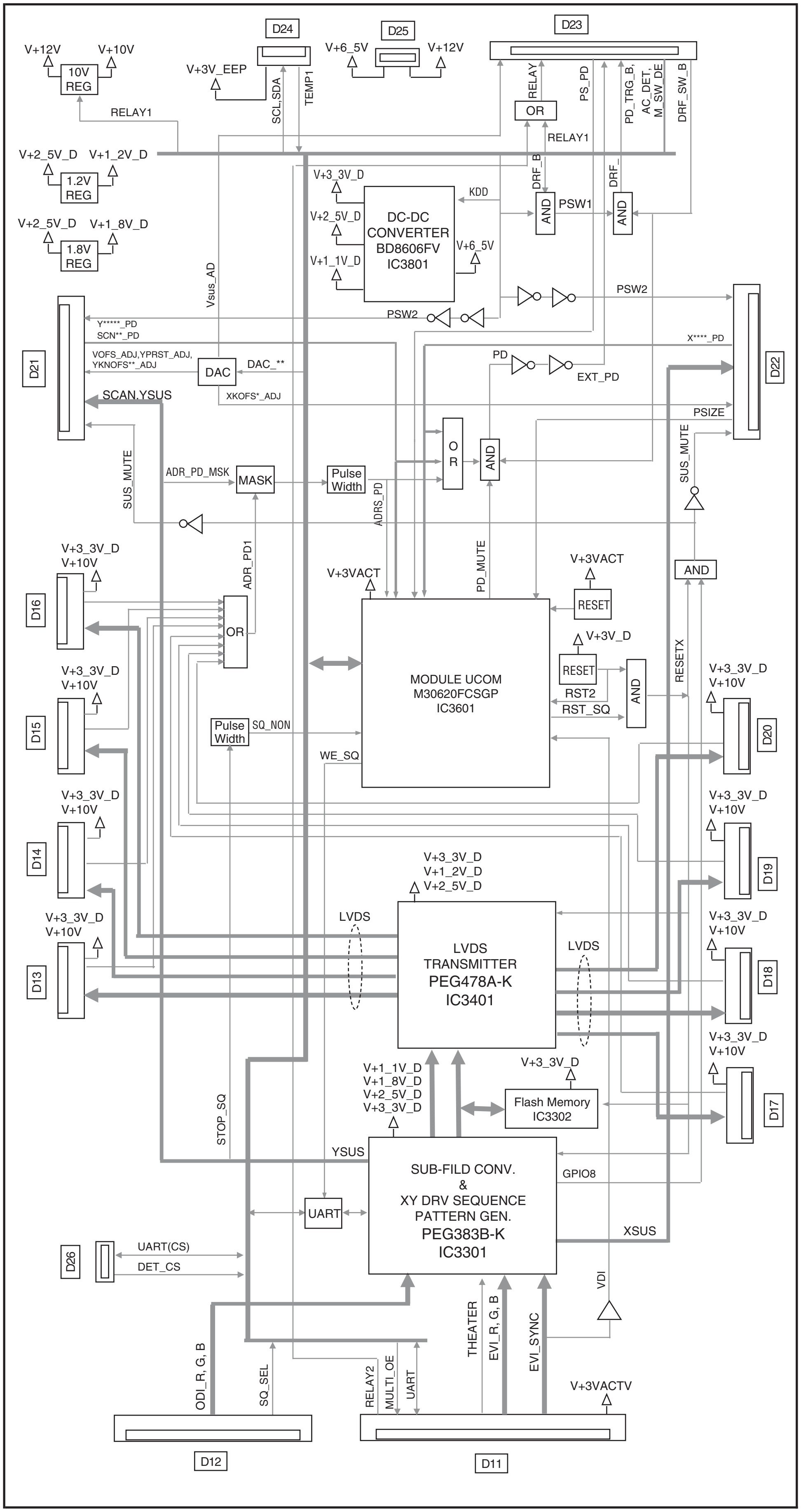

DRIVER IC
IC1651
DRIVER IC
IC1661
DRIVER IC
IC1671
DRIVER IC
IC1681
CLK / LE / HBLK
LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
V+75V
V+3.3V
IC1601
LVDS
RECEIVER
V+10V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1601
AD1
CN1602

60F ADDRESS S ASSY

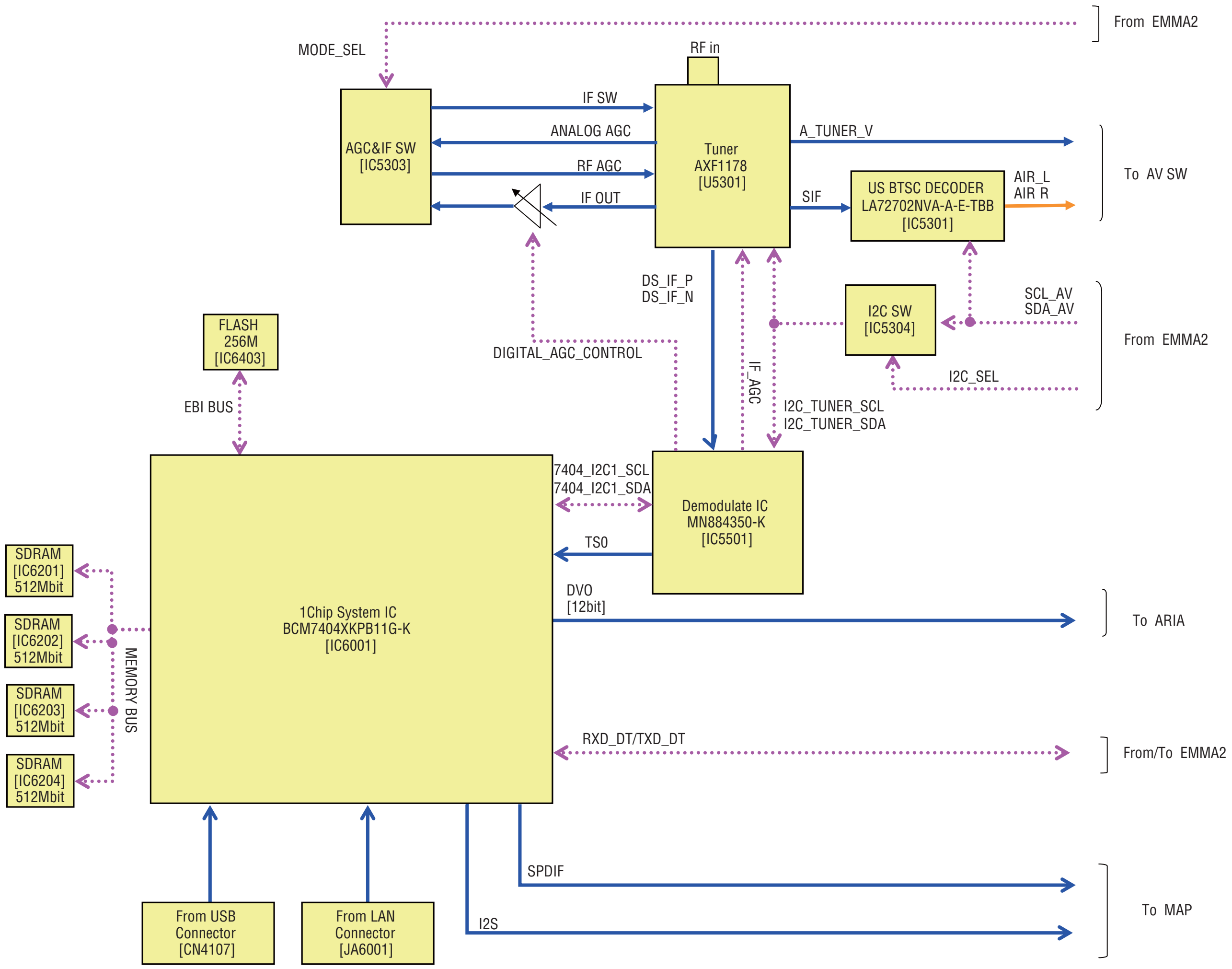

DRIVER IC
IC1851
DRIVER IC
IC1861
DRIVER IC
IC1871
CLK / LE / HBLK
LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
V+75V
V+3.3V
IC1801
LVDS
RECEIVER
V+10V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1801
AD1
CN1802

4.10 60F DIGITAL ASSY

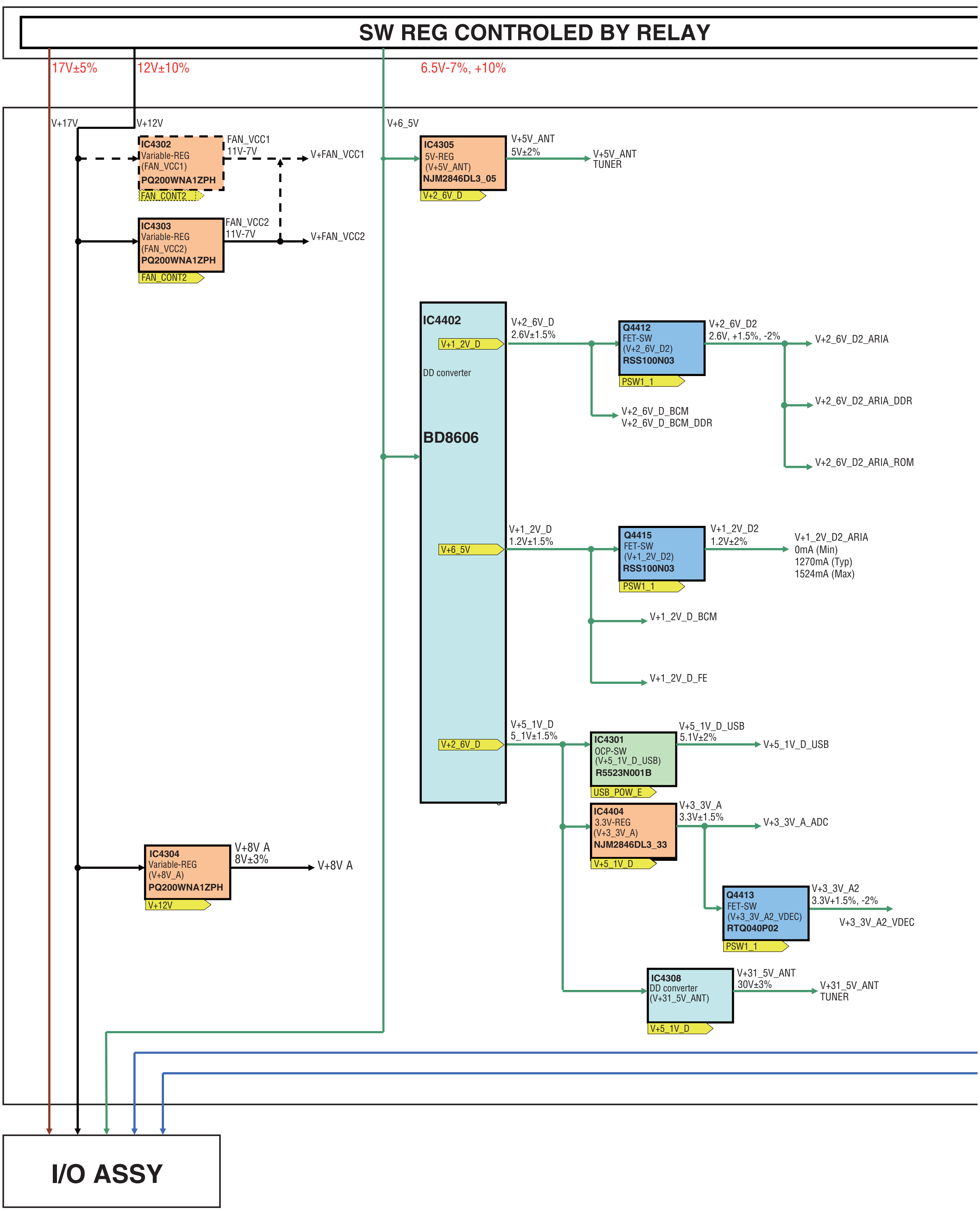
60F DIGITAL ASSY

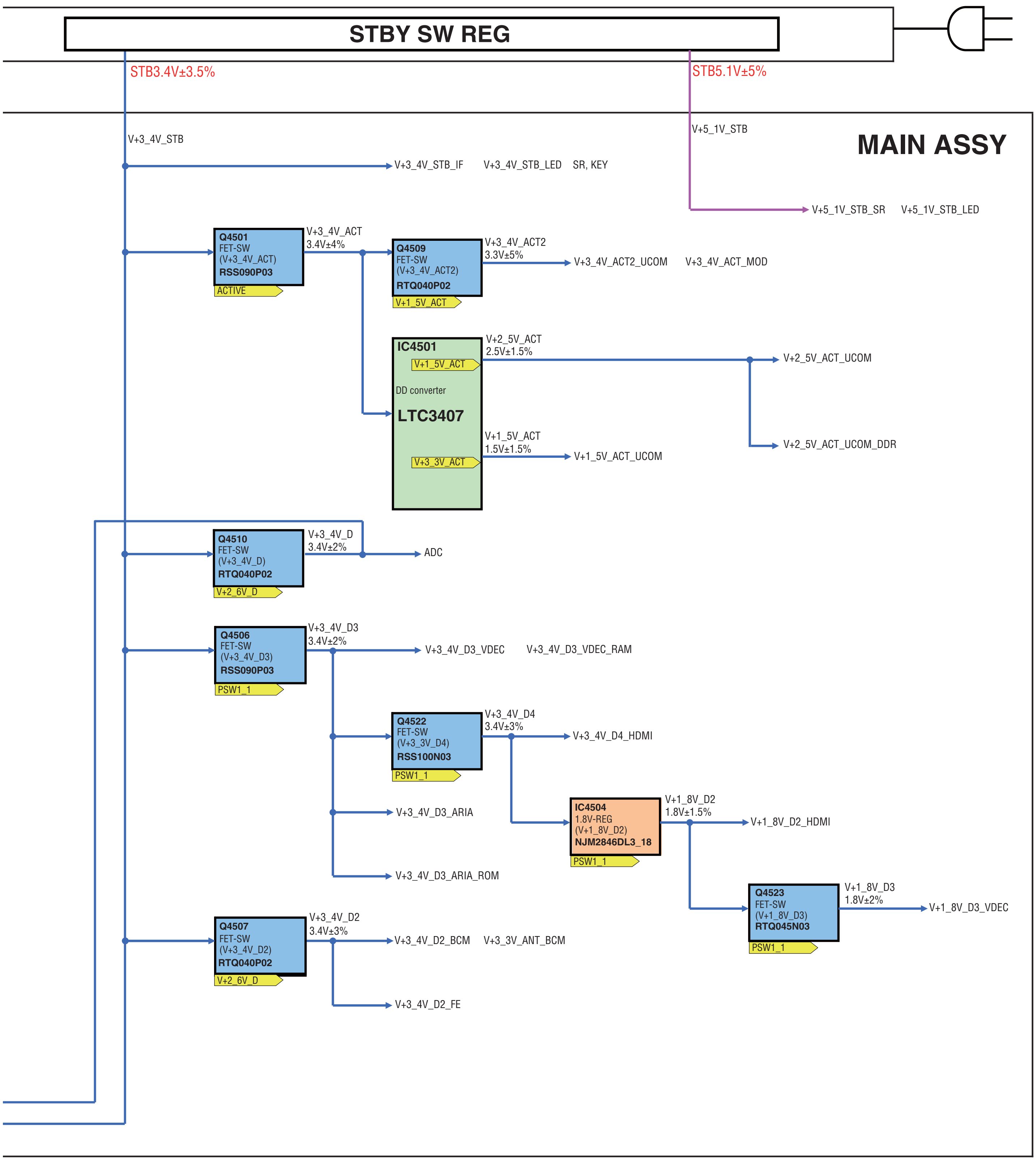

D24
D25
D23
V+12V
V+10V
10V REG
V+3V_EEP
SCL,SDA
TEMP1
V+6_5V
V+12V
RELAY
PS_PD
PD_TRG_B,
AC_DET,
M_SW_DE
DRF_SW_B
OR
RELAY1
RELAY1
V+2_5V_D
V+1_2V_D
1.2V REG
V+2_5V_D
V+1_8V_D
1.8V REG
V+3_3V_D
V+2_5V_D
V+1_1V_D
DC-DC CONVERTER BD8606FV IC3801
KDD
V+6_5V
DRF_B
DRF_
AND
PSW1
AND
Vsus_AD
PSW2
PSW2
D21
Y*****_PD
SCN**_PD
VOFS_ADJ,YPRST_ADJ,
YKNOFS**_ADJ
DAC
DAC_**
XKOFS*_ADJ
SCAN.YSUS
X****_PD
PD
EXT_PD
D22
PSIZE
SUS_MUTE
ADR_PD_MSK
MASK
Pulse Width
ADRS_PD
O R
AND
SUS_MUTE
ADR_PD1
PD_MUTE
V+3VACT
AND
V+3_3V_D
V+10V
D16
V+3VACT
RESET
OR
V+3V_D
RESET
AND
RESETX
MODULE UCOM M30620FCSGP IC3601
RST2
RST_SQ
V+3_3V_D
V+10V
D15
Pulse Width
SQ_NON
WE_SQ
V+3_3V_D
V+10V
D20
V+3_3V_D
V+10V
D14
V+3_3V_D
V+10V
D19
V+3_3V_D
V+1_2V_D
V+2_5V_D
V+3_3V_D
V+10V
D13
LVDS
LVDS TRANSMITTER PEG478A-K IC3401
LVDS
V+3_3V_D
V+10V
D18
V+1_1V_D
V+1_8V_D
V+2_5V_D
V+3_3V_D
V+3_3V_D
Flash Memory IC3302
V+3_3V_D
V+10V
D17
STOP_SQ
YSUS
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN. PEG383B-K IC3301
GPIO8
UART
XSUS
D26
UART(CS)
DET_CS
VDI
THEATER
EVI_R, G, B
EVI_SYNC
ODI_R, G, B
SQ_SEL
RELAY2
MULTI_OE
UART
V+3VACTV
D12
D11

4.11 MAIN ASSY (DTV BLOCK DIAGRAM)


From EMMA2
MODE_SEL
RF in
AGC&IF SW
[IC5303]
IF SW
ANALOG AGC
RF AGC
IF OUT
Tuner
AXF1178
[U5301]
A_TUNER_V
SIF
US BTSC DECODER
LA72702NVA-A-E-TBB
[IC5301]
AIR_L
AIR R
To AV SW
DS_IF_P
DS_IF_N
I2C SW
[IC5304]
SCL_AV
SDA_AV
From EMMA2
I2C_SEL
FLASH
256M
[IC6403]
DIGITAL_AGC_CONTROL
IF_AGC
EBI BUS
I2C_TUNER_SCL
I2C_TUNER_SDA
7404_I2C1_SCL
7404_I2C1_SDA
Demodulate IC
MN884350-K
[IC5501]
TS0
SDRAM
[IC6201]
512Mbit
SDRAM
[IC6202]
512Mbit
SDRAM
[IC6203]
512Mbit
SDRAM
[IC6204]
512Mbit
MEMORY BUS
1Chip System IC
BCM7404XKPB11G-K
[IC6001]
DVO
[12bit]
To ARIA
RXD_DT/TXD_DT
From/To EMMA2
SPDIF
I2S
To MAP
From USB
Connector
[CN4107]
From LAN
Connector
[JA6001]

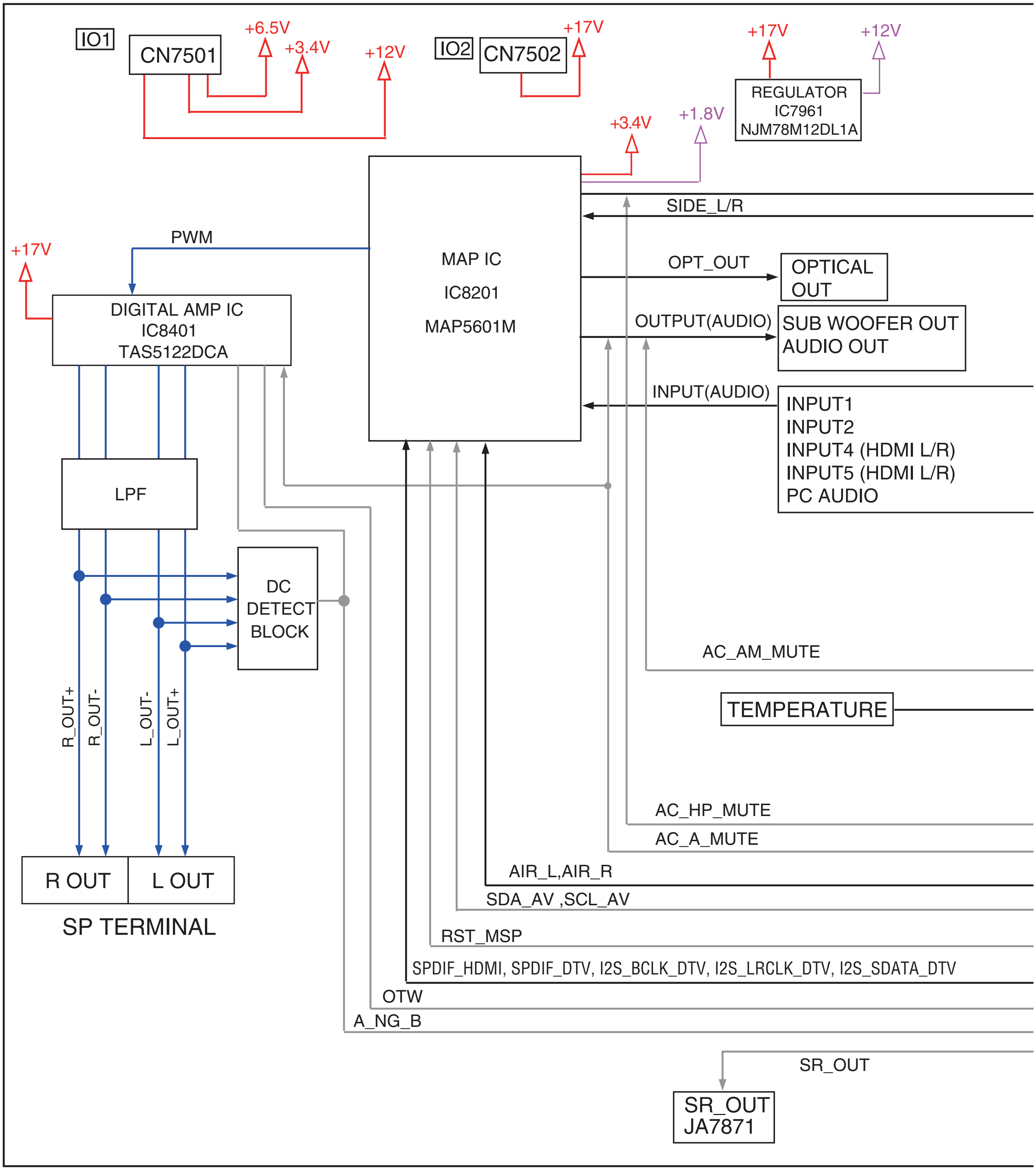
4.12 POWER SUPPLY BLOCK of MAIN ASSY

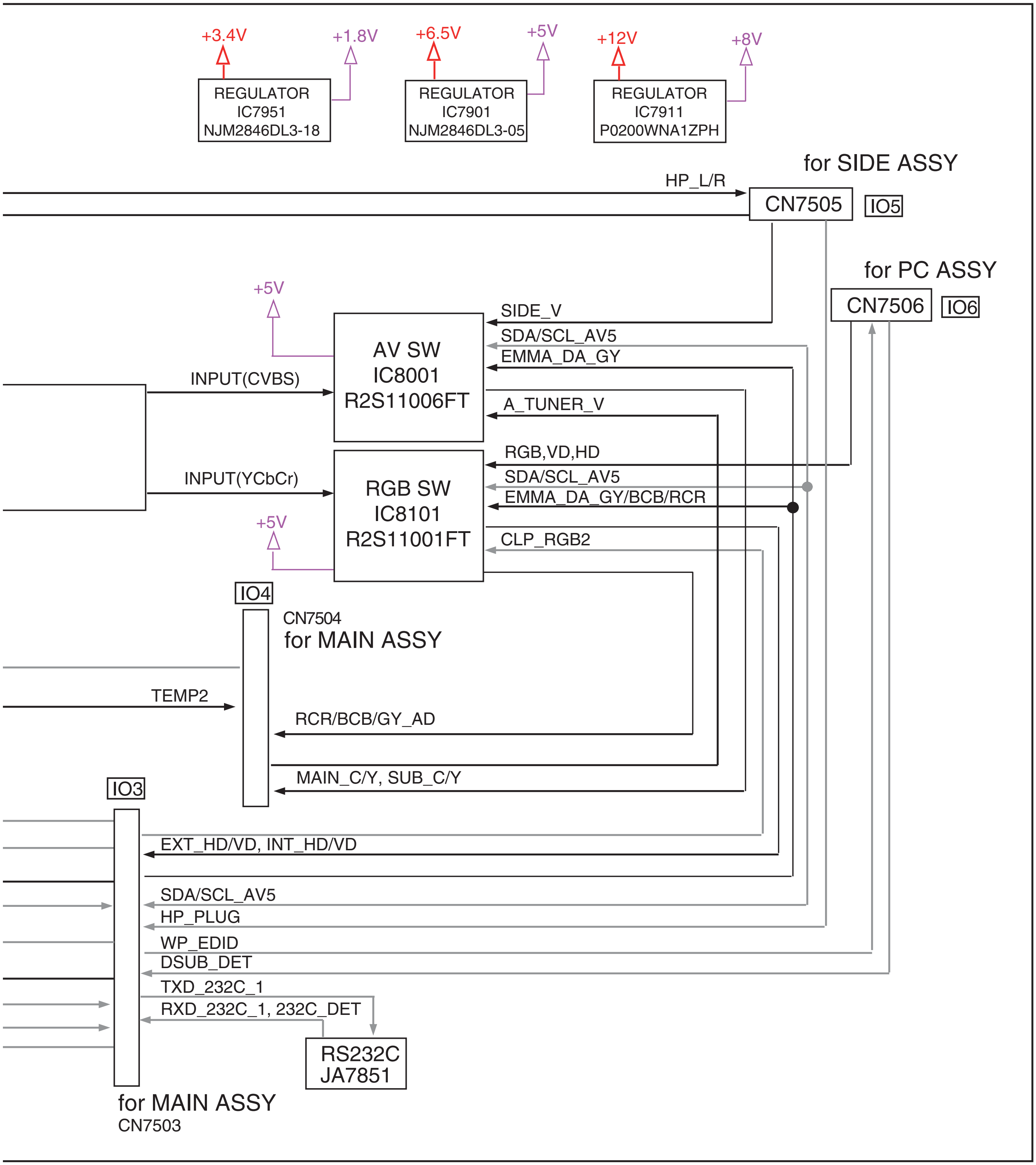

SW REG CONTROLED BY RELAY
17V±5%
12V±10%
6.5V-7%, +10%
V+17V
V+12V
V+6_5V
IC4302
Variable-REG
(FAN_VCC1)
PQ200WNA1ZPH
FAN_CONT2
FAN_VCC1
11V-7V
V+FAN_VCC1
IC4303
Variable-REG
(FAN_VCC2)
PQ200WNA1ZPH
FAN_CONT2
FAN_VCC2
11V-7V
V+FAN_VCC2
IC4305
5V-REG
(V+5V_ANT)
NJM2846DL3_05
V+2_6V_D
V+5V_ANT
5V±2%
V+5V_ANT
TUNER
IC4402
V+1_2V_D
DD converter
BD8606
V+6_5V
V+2_6V_D
V+2_6V_D
2.6V±1.5%
Q4412
FET-SW
(V+2_6V_D2)
RSS100N03
PSW1_1
V+2_6V_D2
2.6V, +1.5%, -2%
V+2_6V_D2_ARIA
V+2_6V_D2_ARIA_DDR
V+2_6V_D2_ARIA_ROM
V+2_6V_D_BCM
V+2_6V_D_BCM_DDR
V+1_2V_D
1.2V±1.5%
Q4415
FET-SW
(V+1_2V_D2)
RSS100N03
PSW1_1
V+1_2V_D2
1.2V±2%
V+1_2V_D2_ARIA
0mA (Min)
1270mA (Typ)
1524mA (Max)
V+1_2V_D_BCM
V+1_2V_D_FE
V+5_1V_D
5_1V±1.5%
IC4301
OCP-SW
(V+5_1V_D_USB)
R5523N001B
USB_POW_E
V+5_1V_D_USB
5.1V±2%
V+5_1V_D_USB
IC4404
3.3V-REG
(V+3_3V_A)
NJM2846DL3_33
V+5_1V_D
V+3_3V_A
3.3V±1.5%
V+3_3V_A_ADC
Q4413
FET-SW
(V+3_3V_A2_VDEC)
RTQ040P02
PSW1_1
V+3_3V_A2
3.3V+1.5%, -2%
V+3_3V_A2_VDEC
IC4308
DD converter
(V+31_5V_ANT)
V+5_1V_D
V+31_5V_ANT
30V±3%
V+31_5V_ANT
TUNER
IC4304
Variable-REG
(V+8V_A)
PQ200WNA1ZPH
V+12V
V+8V A
8V±3%
V+8V A
I/O ASSY
A
B
C
D
E
F


STBY SW REG
STB3.4V±3.5%
STB5.1V±5%
MAIN ASSY
V+3_4V_STB
V+5_1V_STB
V+3_4V_STB_IF
V+3_4V_STB_LED
SR, KEY
V+5_1V_STB_SR
V+5_1V_STB_LED
Q4501
FET-SW
(V+3_4V_ACT)
RSS090P03
ACTIVE
V+3_4V_ACT
3.4V±4%
Q4509
FET-SW
(V+3_4V_ACT2)
RTQ040P02
V+1_5V_ACT
V+3_4V_ACT2
3.3V±5%
V+3_4V_ACT2_UCOM
V+3_4V_ACT_MOD
IC4501
V+1_5V_ACT
DD converter
LTC3407
V+3_3V_ACT
V+2_5V_ACT
2.5V±1.5%
V+2_5V_ACT_UCOM
V+2_5V_ACT_UCOM_DDR
V+1_5V_ACT
1.5V±1.5%
V+1_5V_ACT_UCOM
Q4510
FET-SW
(V+3_4V_D)
RTQ040P02
V+2_6V_D
V+3_4V_D
3.4V±2%
ADC
Q4506
FET-SW
(V+3_4V_D3)
RSS090P03
PSW1_1
V+3_4V_D3
3.4V±2%
V+3_4V_D3_VDEC
V+3_4V_D3_VDEC_RAM
Q4522
FET-SW
(V+3_3V_D4)
RSS100N03
PSW1_1
V+3_4V_D4
3.4V±3%
V+3_4V_D4_HDMI
V+3_4V_D3_ARIA
V+3_4V_D3_ARIA_ROM
IC4504
1.8V-REG
(V+1_8V_D2)
NJM2846DL3_18
PSW1_1
V+1_8V_D2
1.8V±1.5%
V+1_8V_D2_HDMI
Q4523
FET-SW
(V+1_8V_D3)
RTQ045N03
PSW1_1
V+1_8V_D3
1.8V±2%
V+1_8V_D3_VDEC
Q4507
FET-SW
(V+3_4V_D2)
RTQ040P02
V+2_6V_D
V+3_4V_D2
3.4V±3%
V+3_4V_D2_BCM
V+3_3V_ANT_BCM
V+3_4V_D2_FE

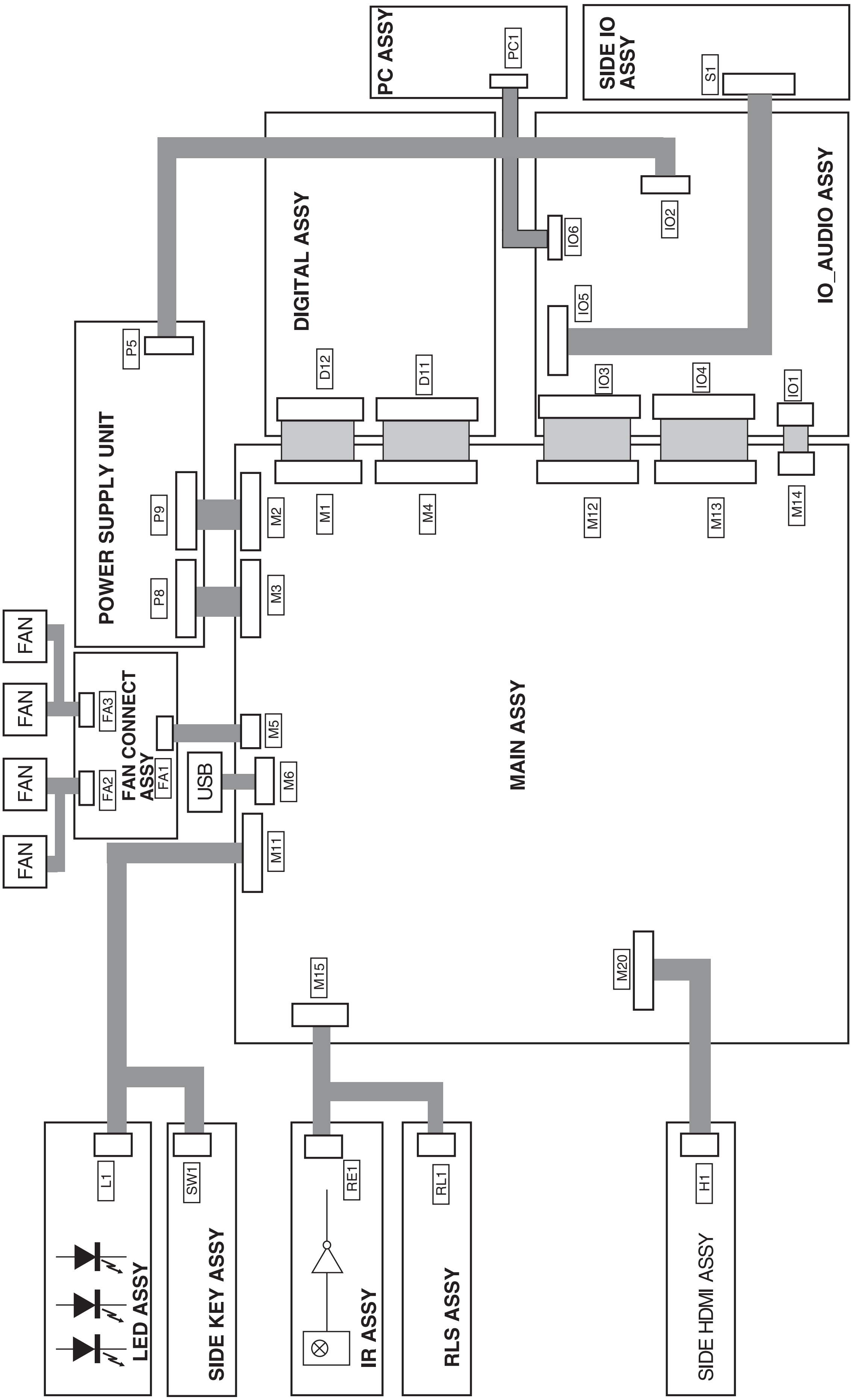
4.13 IO_AUDIO ASSY

IO_AUDIO ASS'Y


IO1
CN7501
+6.5V
+3.4V
+12V
IO2
CN7502
+17V
+17V
+12V
REGULATOR
IC7961
NJM78M12DL1A
+3.4V
+1.8V
MAP IC
IC8201
MAP5601M
SIDE_L/R
PWM
+17V
DIGITAL AMP IC
IC8401
TAS5122DCA
OPT_OUT
OPTICAL OUT
OUTPUT(AUDIO)
SUB WOOFER OUT
AUDIO OUT
INPUT(AUDIO)
INPUT1
INPUT2
INPUT4 (HDMI L/R)
INPUT5 (HDMI L/R)
PC AUDIO
LPF
DC DETECT BLOCK
AC_AM_MUTE
TEMPERATURE
R_OUT+
R_OUT-
L_OUT-
L_OUT+
AC_HP_MUTE
AC_A_MUTE
AIR_L,AIR_R
SDA_AV ,SCL_AV
RST_MSP
SPDIF_HDMI, SPDIF_DTV, I2S_BCLK_DTV, I2S_LRCLK_DTV, I2S_SDATA_DTV
R OUT
L OUT
SP TERMINAL
OTW
A_NG_B
SR_OUT
SR_OUT
JA7871


+3.4V
+1.8V
+6.5V
+5V
+12V
+8V
REGULATOR
IC7951
NJM2846DL3-18
REGULATOR
IC7901
NJM2846DL3-05
REGULATOR
IC7911
P0200WNA1ZPH
for SIDE ASSY
HP_L/R
CN7505
IO5
for PC ASSY
CN7506
IO6
+5V
AV SW
IC8001
R2S11006FT
SIDE_V
SDA/SCL_AV5
EMMA_DA_GY
INPUT(CVBS)
A_TUNER_V
RGB SW
IC8101
R2S11001FT
RGB,VD,HD
SDA/SCL_AV5
EMMA_DA_GY/BCB/RCR
INPUT(YCbCr)
+5V
CLP_RGB2
IO4
CN7504
for MAIN ASSY
TEMP2
RCR/BCB/GY_AD
MAIN_C/Y, SUB_C/Y
IO3
EXT_HD/VD, INT_HD/VD
SDA/SCL_AV5
HP_PLUG
WP_EDID
DSUB_DET
TXD_232C_1
RXD_232C_1, 232C_DET
RS232C
JA7851
for MAIN ASSY
CN7503

4.14 LED and IR ASSYS

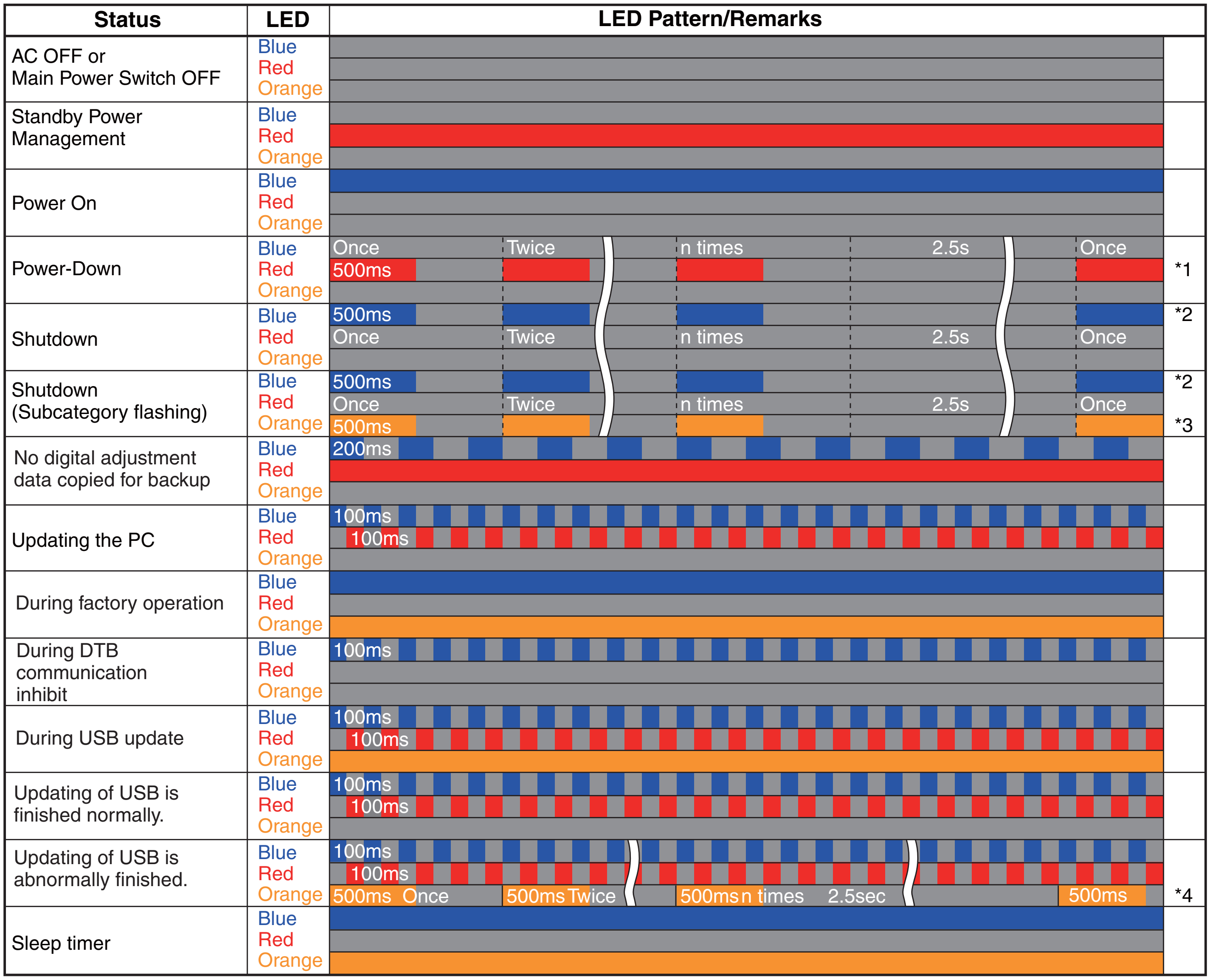

PC ASSY
PC1
SIDE IO ASSY
S1
DIGITAL ASSY
IO_AUDIO ASSY
IO2
IO6
IO5
D12
D11
IO3
IO4
IO1
POWER SUPPLY UNIT
P5
P9
P8
M2
M3
M1
M4
M12
M13
M14
FAN
FAN
FAN
FAN
FAN CONNECT ASSY
FA3
FA2
FA1
USB
M5
M6
M11
MAIN ASSY
M15
M20
L1
SW1
RE1
RL1
H1
LED ASSY
SIDE KEY ASSY
IR ASSY
RLS ASSY
SIDE HDMI ASSY

5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

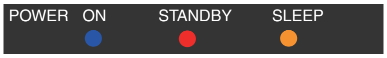
[1] LED DISPLAY INFORMATION

■ LED Pattern

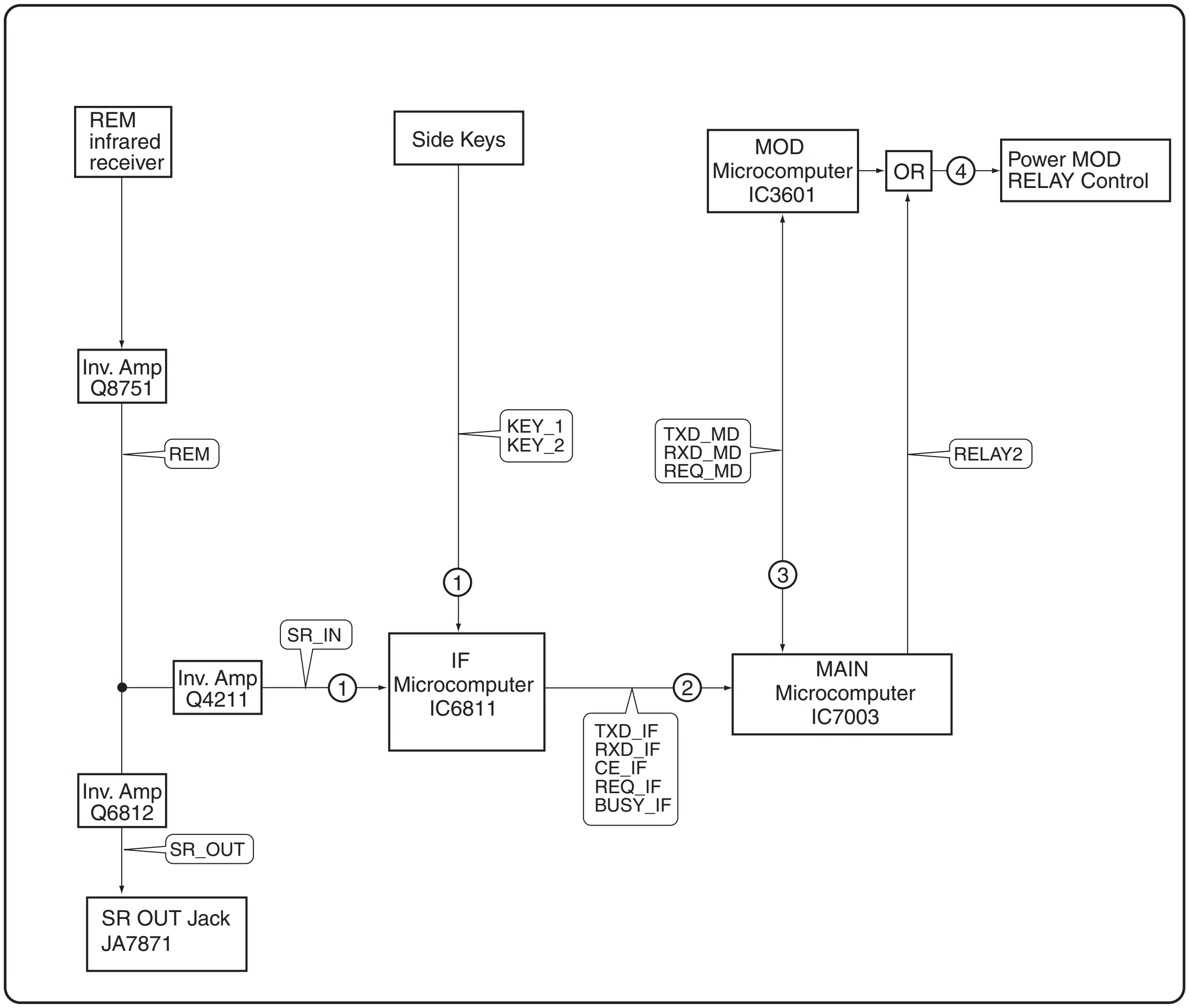


Status	LED	LED Pattern/Remarks	
AC OFF or Main Power Switch OFF	Blue		
	Red		
	Orange		
Standby Power Management	Blue		
	Red		
	Orange		
Power On	Blue		
	Red		
	Orange		
Power-Down	Blue	Once Twice n times 2.5s Once	
	Red	500ms	*1
	Orange		
Shutdown	Blue	500ms	*2
	Red	Once Twice n times 2.5s Once	
	Orange		
Shutdown (Subcategory flashing)	Blue	500ms	*2
	Red	Once Twice n times 2.5s Once	
	Orange	500ms	*3
No digital adjustment data copied for backup	Blue	200ms	
	Red		
	Orange		
Updating the PC	Blue	100ms	
	Red	100ms	
	Orange		
During factory operation	Blue		
	Red		
	Orange		
During DTB communication inhibit	Blue	100ms	
	Red		
	Orange		
During USB update	Blue	100ms	
	Red	100ms	
	Orange		
Updating of USB is finished normally.	Blue	100ms	
	Red	100ms	
	Orange		
Updating of USB is abnormally finished.	Blue	100ms	
	Red	100ms	
	Orange	500ms Once 500ms Twice 500ms n times 2.5sec 500ms	*4
Sleep timer	Blue		
	Red		
	Orange		

*1: Notify upon the power-down content by Red LED flashing number of times.
*2: Notify upon the shutdown content by Blue LED flashing number of times
*3: Notify upon the subcategory number by Orange LED flashing number of times.
*4: Notify upon the abnormal state by Orange LED flashing number of times.



[2] POWER ON SEQUENCE



REM infrared receiver
Side Keys
MOD Microcomputer IC3601
OR
④
Power MOD RELAY Control
Inv. Amp Q8751
REM
KEY_1
KEY_2
TXD_MD
RXD_MD
REQ_MD
RELAY2
①
③
SR_IN
Inv. Amp Q4211
①
IF Microcomputer IC6811
②
MAIN Microcomputer IC7003
TXD_IF
RXD_IF
CE_IF
REQ_IF
BUSY_IF
Inv. Amp Q6812
SR_OUT
SR OUT Jack JA7871

① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

[3] DETAILS OF POWER ON SEQUENCE

AC-OFF Main Power OFF, Passive Standby

Front LED: OFF

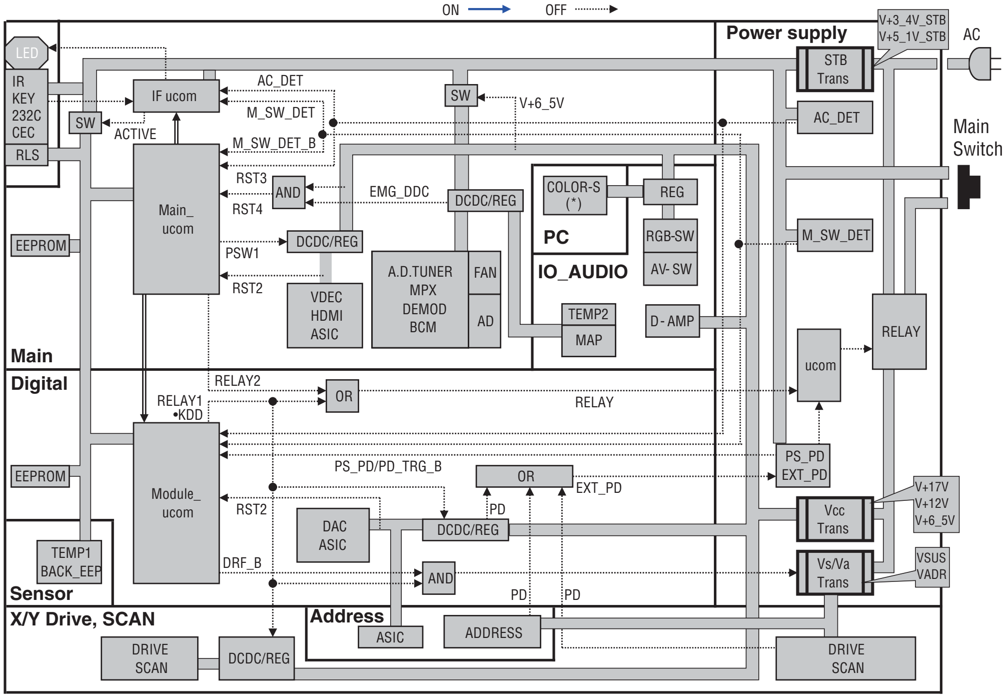
Microcomputer
output port setting

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
EEPROM
Main_ ucom
RST3
RST4
AND
EMG_DDC
DCDC/REG
COLOR-S (*)
REG
PC
RGB-SW
M_SW_DET
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
IO_AUDIO
AV- SW
TEMP2
MAP
D - AMP
RELAY
ucom
Main
Digital
RELAY2
RELAY1 •KDD
OR
RELAY
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
PS_PD
EXT_PD
EXT_PD
PD
RST2
DAC ASIC
DCDC/REG
Vcc Trans
V+17V
V+12V
V+6_5V
TEMP1
BACK_EEP
DRF_B
AND
Vs/Va Trans
VSUS
VADR
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

All devices are not electrified.

AC-ON Main Power OFF, Passive Standby

Front LED: OFF

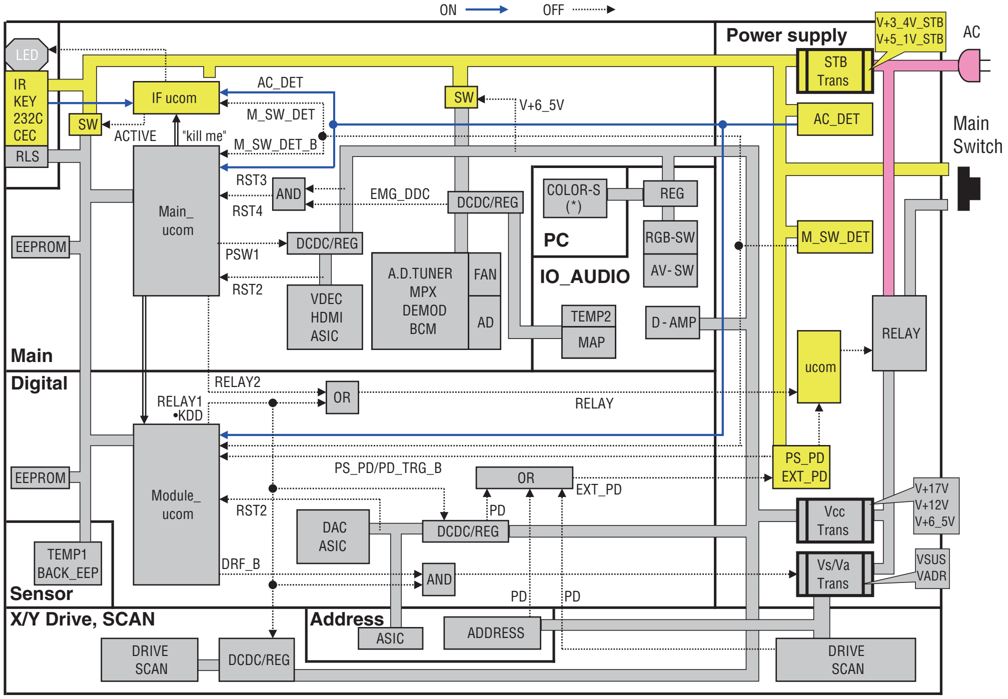
Microcomputer
output port setting

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
"kill me"
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
EEPROM
Main_ ucom
RST3
RST4
AND
EMG_DDC
DCDC/REG
COLOR-S (*)
REG
PC
RGB-SW
M_SW_DET
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
IO_AUDIO
AV- SW
TEMP2
MAP
D - AMP
RELAY
ucom
Main
Digital
RELAY2
RELAY1 •KDD
OR
RELAY
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
PS_PD
EXT_PD
EXT_PD
PD
RST2
DAC ASIC
DCDC/REG
Vcc Trans
V+17V
V+12V
V+6_5V
TEMP1
BACK_EEP
DRF_B
AND
Vs/Va Trans
VSUS
VADR
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

Only the periphery of the IF microcomputer are electrified.
The user operation is invalid due to Main Switch off.

AC-ON Main Power OFF, Active Standby

Front LED: OFF

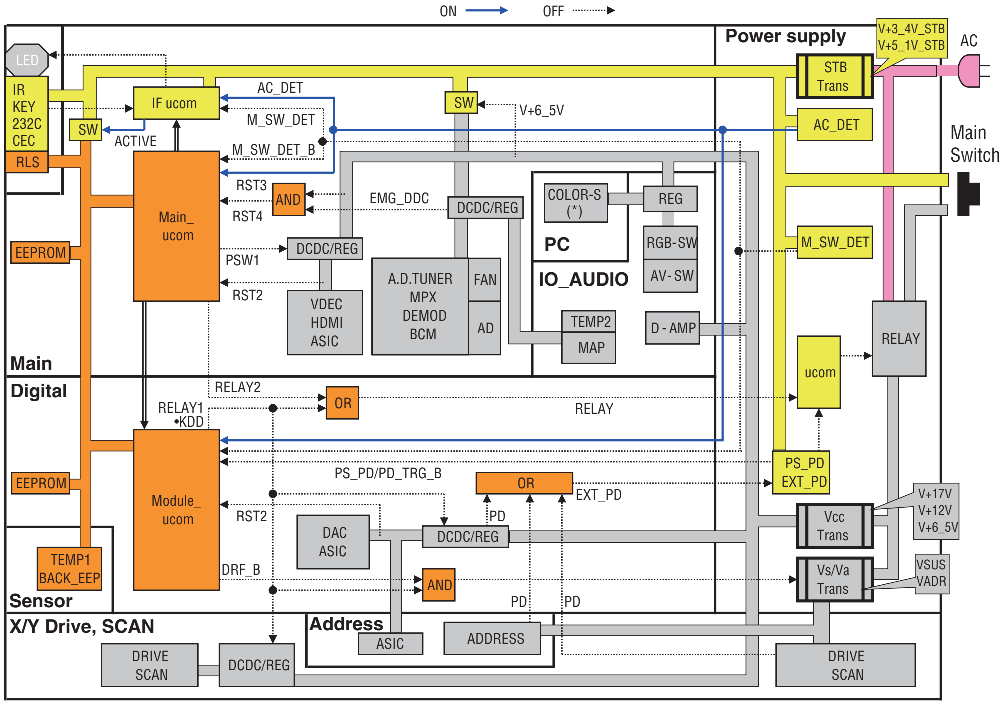
Microcomputer output port setting

IF: ACTIVE	ON
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
M_SW_DET
RELAY
ucom
PS_PD
EXT_PD
V+17V
V+12V
V+6_5V
Vcc Trans
VSUS
VADR
Vs/Va Trans
EEPROM
Main_ ucom
RST3
RST4
AND
EMG_DDC
DCDC/REG
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
COLOR-S (*)
REG
PC
RGB-SW
AV-SW
IO_AUDIO
TEMP2
MAP
D-AMP
Main
Digital
RELAY2
OR
RELAY
RELAY1 •KDD
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
EXT_PD
RST2
DAC ASIC
PD
DCDC/REG
TEMP1 BACK_EEP
DRF_B
AND
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

Periphery of the IF, Main and Module microcomputers are operated.
The user operation is invalid due to Main Switch off.

AC-ON Main Power ON, Passive Standby

Front LED: RED

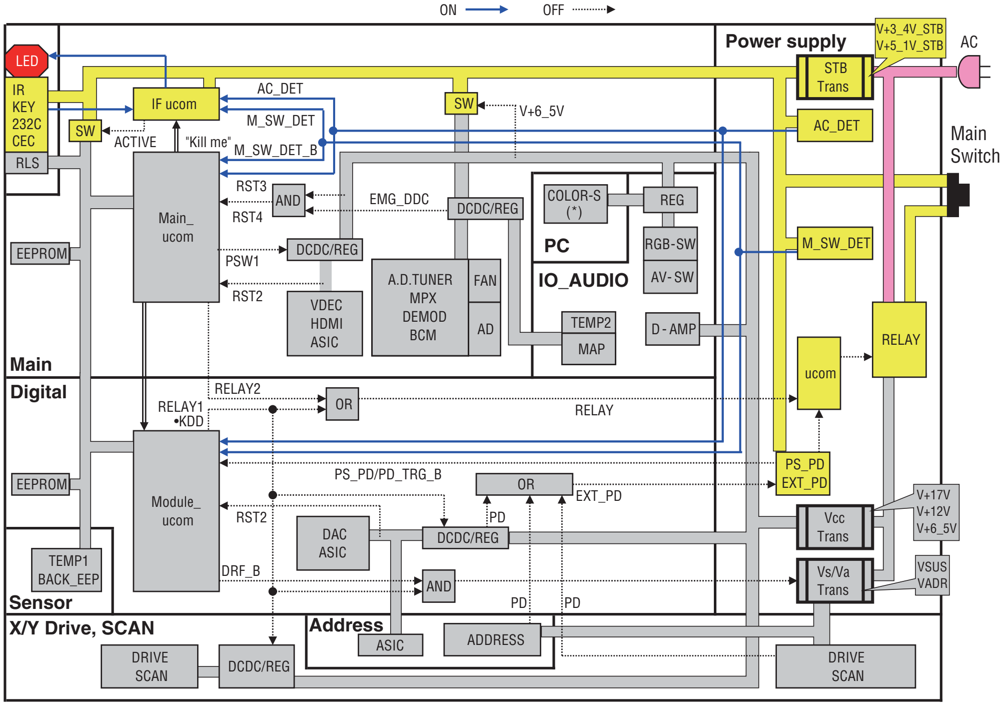
Microcomputer output port setting

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
"Kill me"
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
M_SW_DET
RELAY
ucom
PS_PD
EXT_PD
V+17V
V+12V
V+6_5V
Vcc Trans
VSUS
VADR
Vs/Va Trans
EEPROM
Main_ ucom
RST3
RST4
AND
EMG_DDC
DCDC/REG
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
COLOR-S (*)
REG
PC
RGB-SW
AV-SW
IO_AUDIO
TEMP2
MAP
D-AMP
Main
Digital
RELAY2
OR
RELAY
RELAY1 •KDD
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
EXT_PD
RST2
DAC ASIC
PD
DCDC/REG
TEMP1 BACK_EEP
DRF_B
AND
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

Only the periphery of the IF microcomputer is electrified.
The user operation is valid.

AC-ON Main Power ON, Active Standby

Front LED: RED

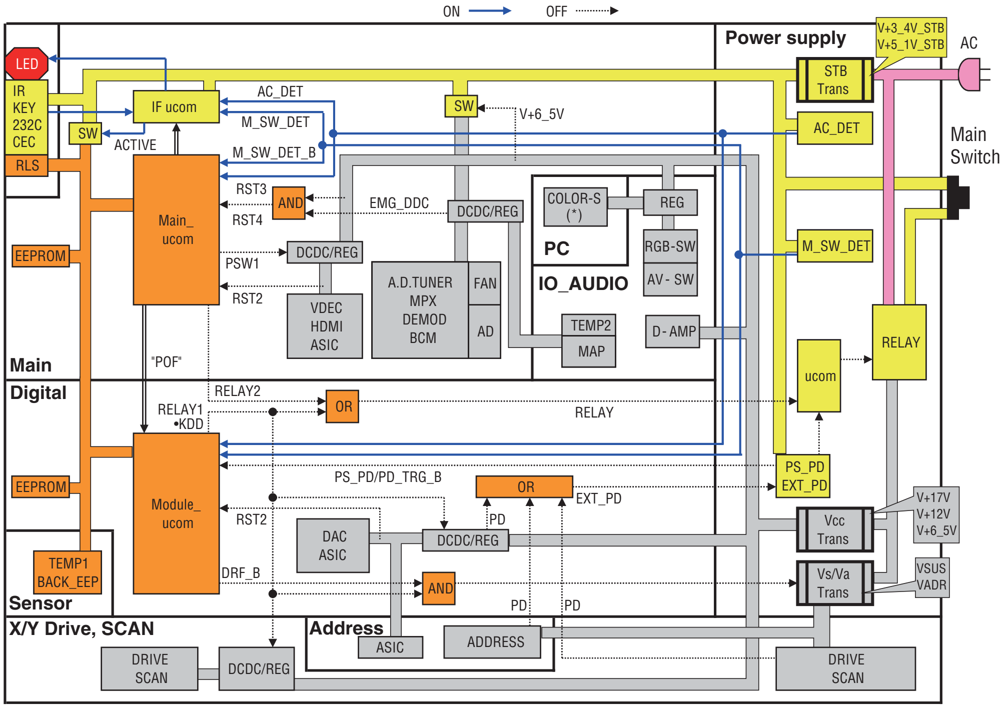
Microcomputer
output port setting

IF: ACTIVE	ON
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
M_SW_DET
RELAY
ucom
PS_PD
EXT_PD
V+17V
V+12V
V+6_5V
Vcc Trans
Vs/Va Trans
VSUS
VADR
DRIVE SCAN
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
RST3
AND
RST4
EMG_DDC
DCDC/REG
COLOR-S (*)
REG
PC
RGB-SW
IO_AUDIO
AV- SW
EEPROM
Main_ ucom
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
TEMP2
MAP
D- AMP
Main
"POF"
Digital
RELAY2
RELAY1 •KDD
OR
RELAY
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
EXT_PD
PD
RST2
DAC ASIC
DCDC/REG
TEMP1 BACK_EEP
DRF_B
AND
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

Periphery of the IF, Main and Module microcomputers are operated.
The user operation is valid.

AC-ON Main Power ON, Function Standby

Front LED: RED

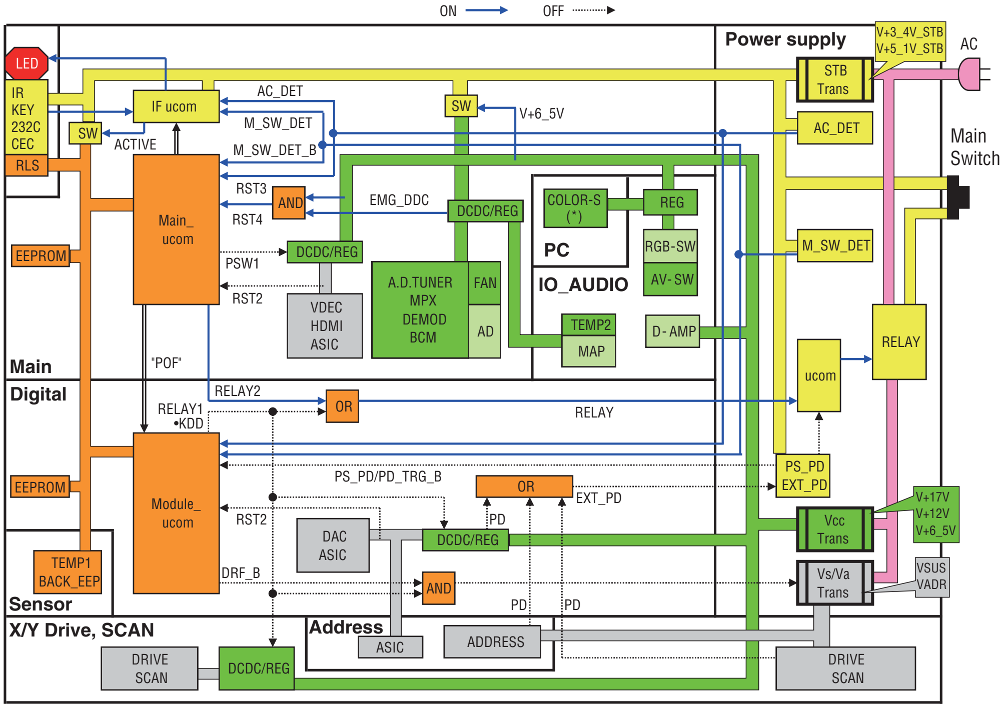
Microcomputer
output port setting

IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	OFF
Module: RELAY1•KDD	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	ON
Main: RST2	OFF
Module: RST2	OFF

(*): PRO-151FD only


ON
OFF
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
M_SW_DET
RELAY
ucom
PS_PD
EXT_PD
V+17V
V+12V
V+6_5V
Vcc Trans
Vs/Va Trans
VSUS
VADR
DRIVE SCAN
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
RST3
AND
RST4
EMG_DDC
DCDC/REG
COLOR-S (*)
REG
PC
RGB-SW
IO_AUDIO
AV- SW
EEPROM
Main_ ucom
PSW1
DCDC/REG
RST2
VDEC HDMI ASIC
A.D.TUNER MPX DEMOD BCM
FAN
AD
TEMP2
MAP
D- AMP
Main
"POF"
Digital
RELAY2
RELAY1 •KDD
OR
RELAY
EEPROM
Module_ ucom
PS_PD/PD_TRG_B
OR
EXT_PD
PD
RST2
DAC ASIC
DCDC/REG
TEMP1 BACK_EEP
DRF_B
AND
Sensor
PD
PD
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

Standby power device and some Vcc power devices operate.
The user operation is valid.
RGB-SW/AD/D-AMP/MAP are electrified, but uses the power-saving mode function of the IC.

A

AC-ON Main Power ON, PDP Screen ON

Front LED: BLUE

Microcomputer output port setting

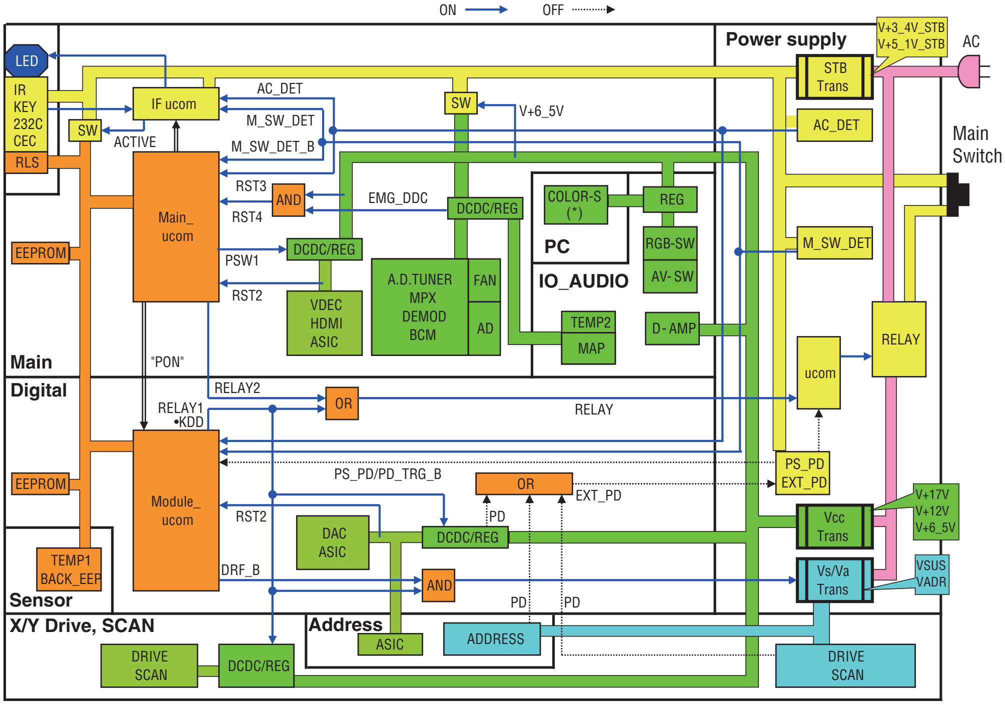
IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	ON
Module: RELAY1•KDD	ON
Module: DRF_B	ON

B

Microcomputer input port state

Main: RST4	ON
Main: RST2	ON
Module: RST2	ON

(*): PRO-151FD only



ON
OFF
Power supply
V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
Main Switch
M_SW_DET
RELAY
ucom
PS_PD
EXT_PD
Vcc Trans
V+17V
V+12V
V+6_5V
Vs/Va Trans
VSUS
VADR
LED
IR
KEY
232C
CEC
RLS
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
SW
V+6_5V
RST3
AND
RST4
EMG_DDC
DCDC/REG
EEPROM
Main_ ucom
PSW1
DCDC/REG
RST2
VDEC
HDMI
ASIC
A.D.TUNER
MPX
DEMOD
BCM
FAN
AD
COLOR-S (*)
REG
PC
RGB-SW
IO_AUDIO
AV-SW
TEMP2
MAP
D-AMP
Main
"PON"
Digital
RELAY2
RELAY1 •KDD
OR
RELAY
EEPROM
PS_PD/PD_TRG_B
OR
EXT_PD
Module_ ucom
RST2
DAC ASIC
DCDC/REG
PD
TEMP1
BACK_EEP
DRF_B
AND
PD
PD
Sensor
C
X/Y Drive, SCAN
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN

All devices are operated.

C

D

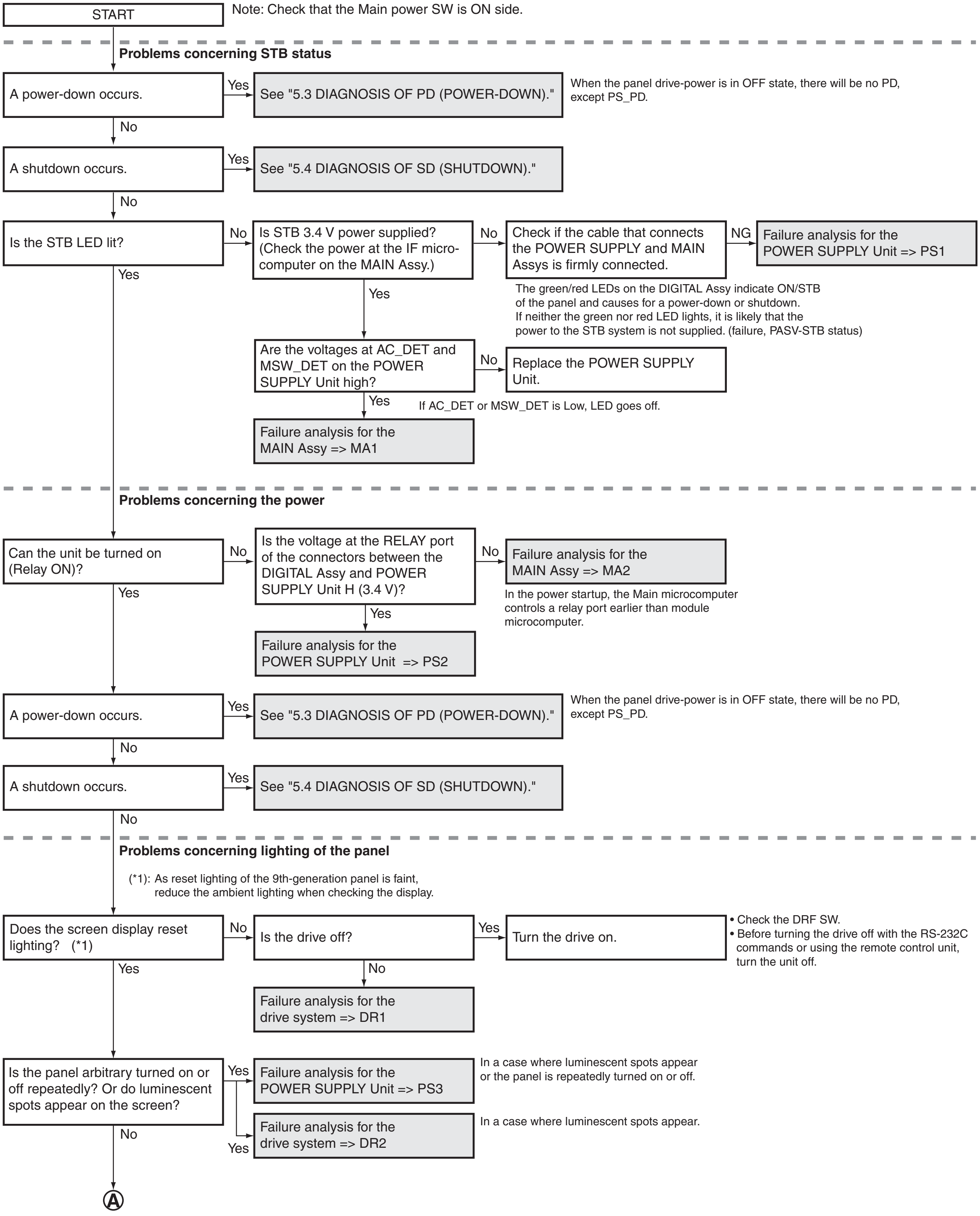
E

F

5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit


START
Problems concerning STB status
A power-down occurs.
Yes
See "5.3 DIAGNOSIS OF PD (POWER-DOWN)."
No
A shutdown occurs.
Yes
See "5.4 DIAGNOSIS OF SD (SHUTDOWN)."
No
Is the STB LED lit?
No
Is STB 3.4 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Yes
Are the voltages at AC_DET and MSW_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
Failure analysis for the MAIN Assy => MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Is the voltage at the RELAY port of the connectors between the DIGITAL Assy and POWER SUPPLY Unit H (3.4 V)?
No
Failure analysis for the MAIN Assy => MA2
Yes
Failure analysis for the POWER SUPPLY Unit => PS2
Yes
A power-down occurs.
Yes
See "5.3 DIAGNOSIS OF PD (POWER-DOWN)."
No
A shutdown occurs.
Yes
See "5.4 DIAGNOSIS OF SD (SHUTDOWN)."
No
Problems concerning lighting of the panel
Does the screen display reset lighting? (*1)
No
Is the drive off?
Yes
Turn the drive on.
No
Failure analysis for the drive system => DR1
Yes
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit => PS3
Yes
Failure analysis for the drive system => DR2
No
Ⓐ

Note: Check that the Main power SW is ON side.

When the panel drive-power is in OFF state, there will be no PD, except PS_PD.

The green/red LEDs on the DIGITAL Assy indicate ON/STB of the panel and causes for a power-down or shutdown.
If neither the green nor red LED lights, it is likely that the power to the STB system is not supplied. (failure, PASV-STB status)

If AC_DET or MSW_DET is Low, LED goes off.

In the power startup, the Main microcomputer controls a relay port earlier than module microcomputer.

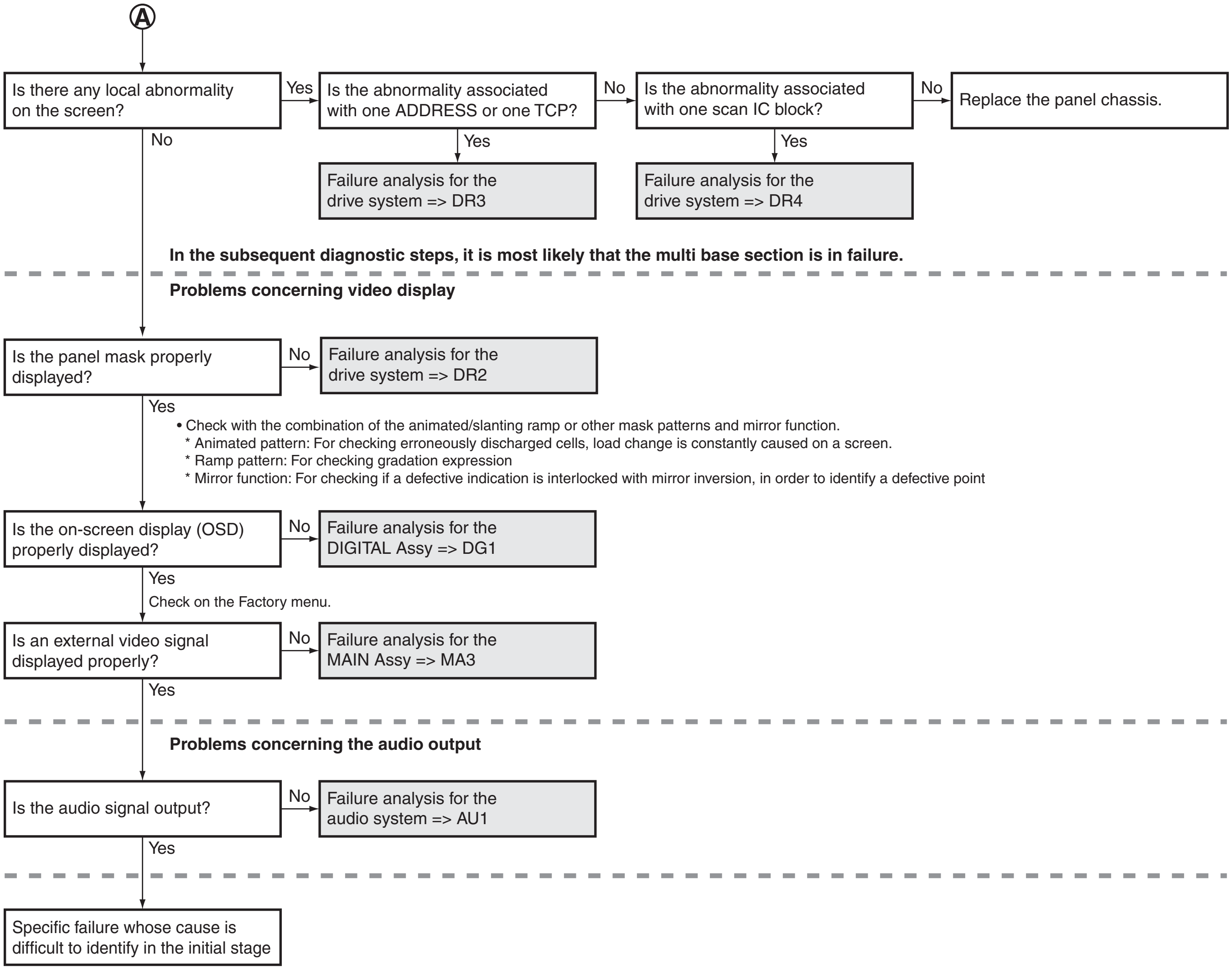
When the panel drive-power is in OFF state, there will be no PD, except PS_PD.

(*1): As reset lighting of the 9th-generation panel is faint, reduce the ambient lighting when checking the display.

- Check the DRF SW.
- Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.

In a case where luminescent spots appear or the panel is repeatedly turned on or off.

In a case where luminescent spots appear.


A
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with one scan IC block?
No
Replace the panel chassis.
Yes
Failure analysis for the drive system => DR3
Yes
Failure analysis for the drive system => DR4
No
Is the panel mask properly displayed?
No
Failure analysis for the drive system => DR2
Yes
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.

Problems concerning video display

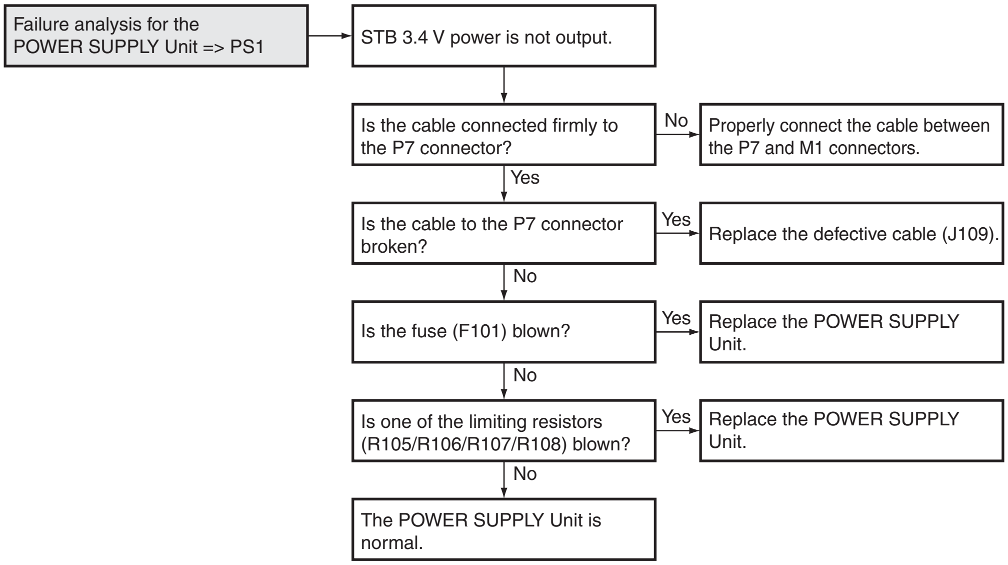
- Check with the combination of the animated/slanting ramp or other mask patterns and mirror function.
  - * Animated pattern: For checking erroneously discharged cells, load change is constantly caused on a screen.
  - * Ramp pattern: For checking gradation expression
  - * Mirror function: For checking if a defective indication is interlocked with mirror inversion, in order to identify a defective point

Check on the Factory menu.

Problems concerning the audio output

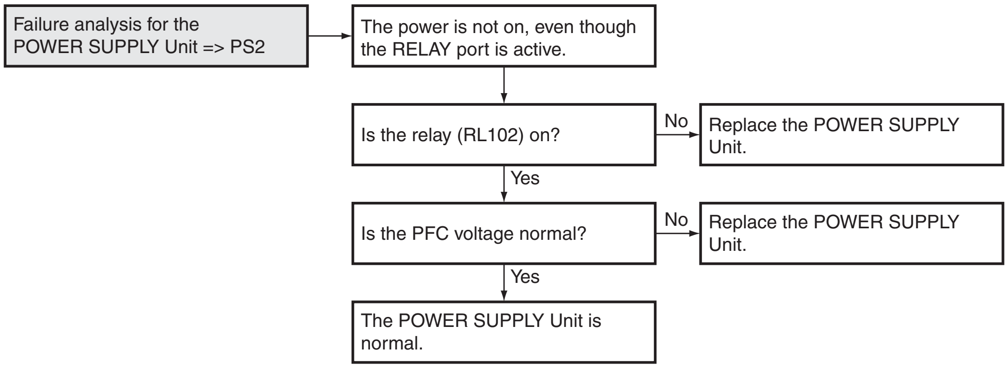
[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PS1
STB 3.4 V power is not output.
Is the cable connected firmly to the P7 connector?
No
Properly connect the cable between the P7 and M1 connectors.
Yes
Is the cable to the P7 connector broken?
Yes
Replace the defective cable (J109).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R105/R106/R107/R108) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

Check the voltage at the MAIN Assy and POWER SUPPLY Unit.

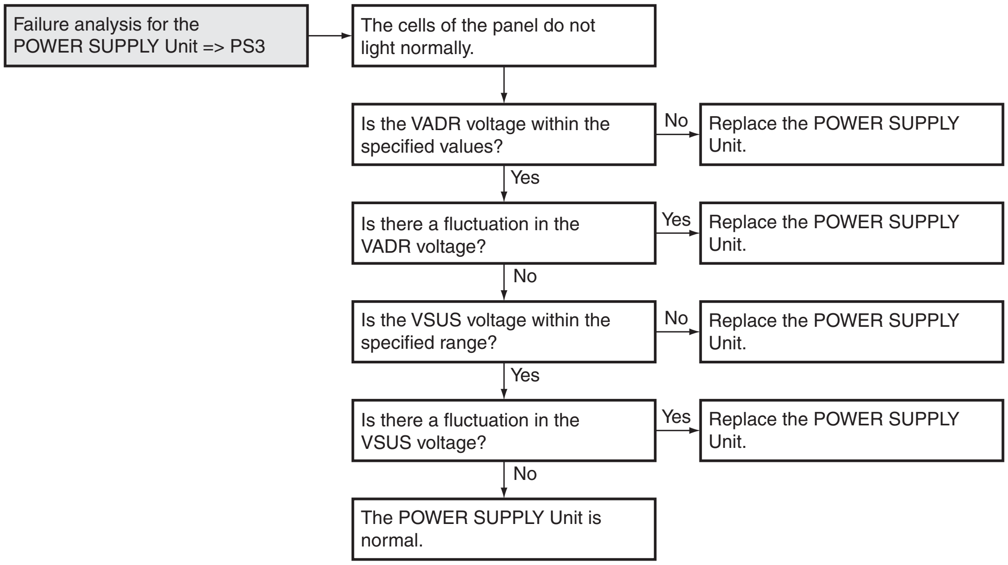
Check the resistance between L102 (R105 side) and the D131 anode, using a tester.


Failure analysis for the POWER SUPPLY Unit => PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the relay operation at the terminal (Pin 4 of P4). (Voltage: 3.4 V)
- Check the relay sound (click).

- Check the voltage between the D205 cathode and RC101 (-) terminal.
- The voltage must be around 390 V. (340V or less are defective.)

Caution: High voltage!


Failure analysis for the POWER SUPPLY Unit => PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

The specified voltage values are between 72 and 78 V.

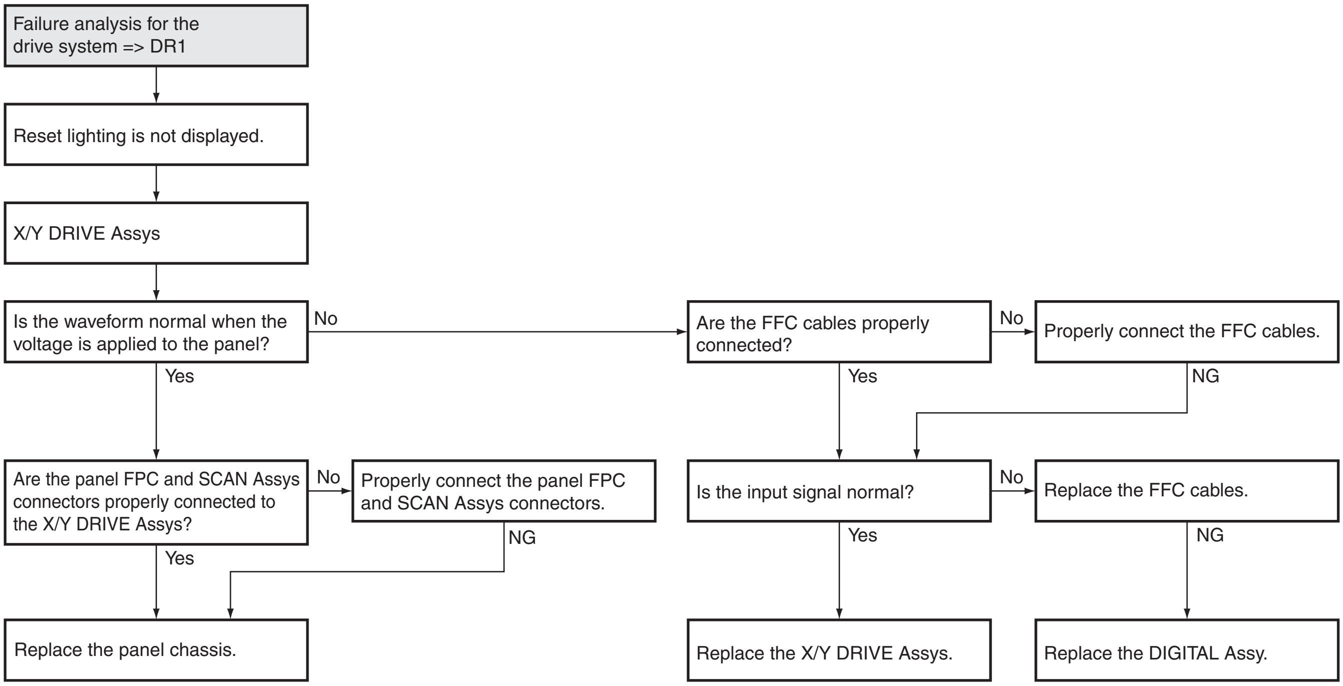
The ripple must be within 5 V.

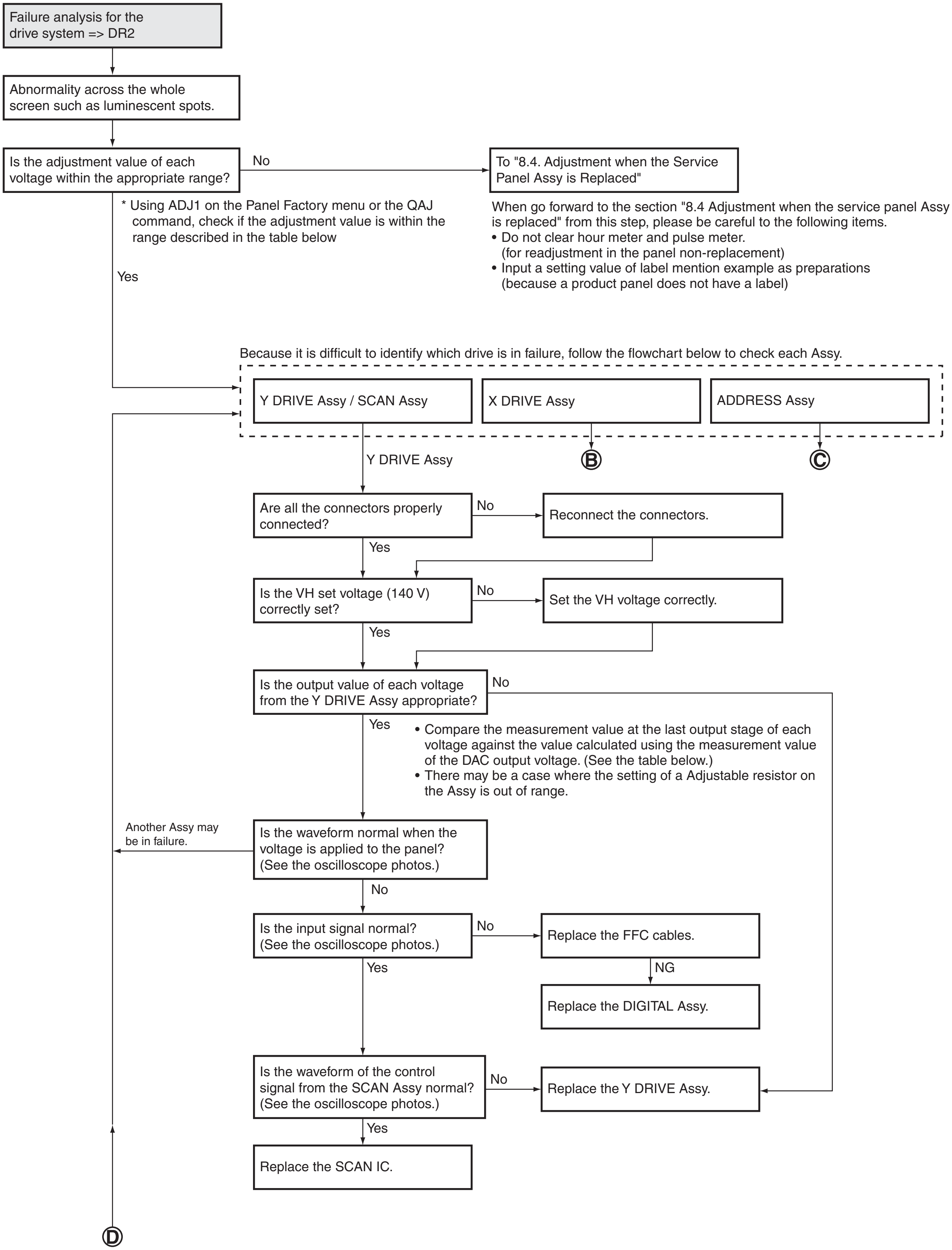
The specified voltage values are between 205 and 215 V (VSU: 125/35°C).

The ripple must be within 10 V.

[3] DRIVE ASSY

Flowchart of Failure Analysis for The Drive Assy


Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
NG
Yes
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the panel chassis.
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.

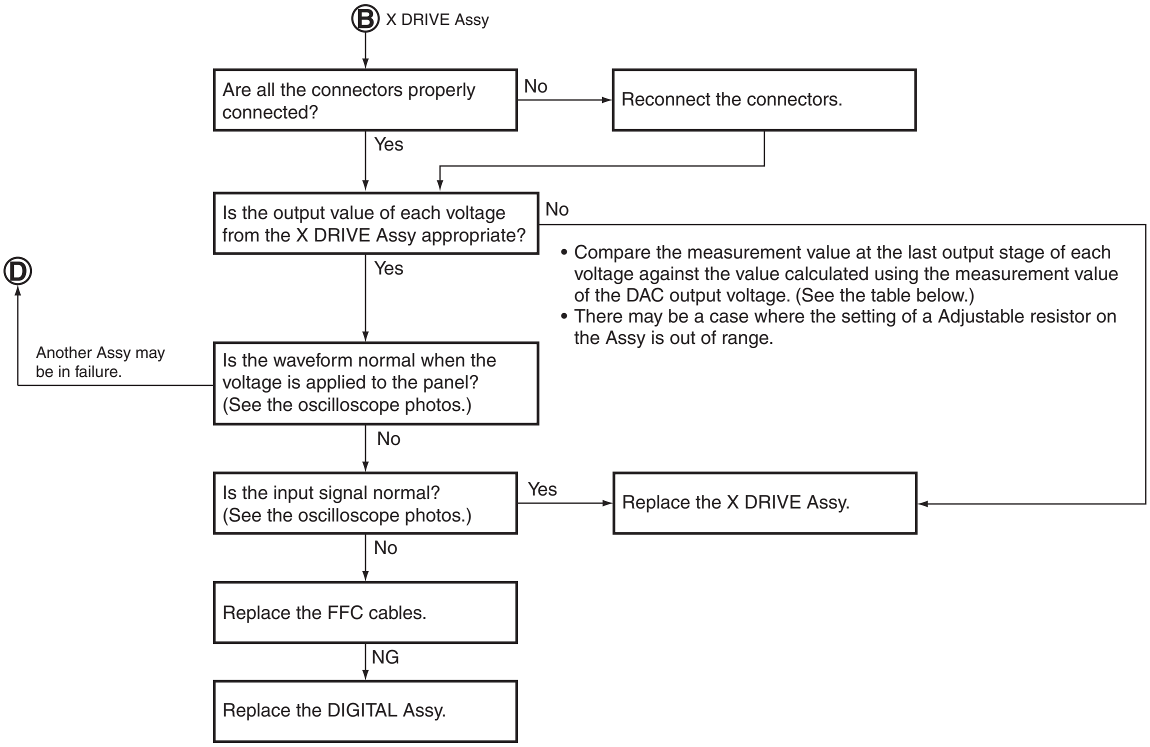

Failure analysis for the drive system => DR2
Abnormality across the whole screen such as luminescent spots.
Is the adjustment value of each voltage within the appropriate range?
No
To "8.4. Adjustment when the Service Panel Assy is Replaced"
Yes
Y DRIVE Assy / SCAN Assy
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the VH set voltage (140 V) correctly set?
No
Set the VH voltage correctly.
Yes
Is the output value of each voltage from the Y DRIVE Assy appropriate?
No
Yes
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
Ⓓ

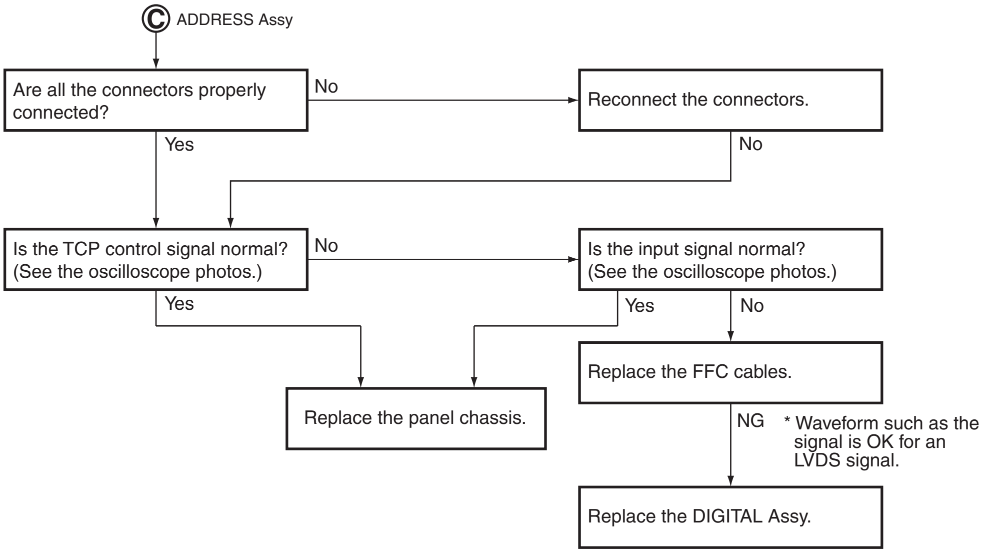
* Using ADJ1 on the Panel Factory menu or the QAJ command, check if the adjustment value is within the range described in the table below

When go forward to the section "8.4 Adjustment when the service panel Assy is replaced" from this step, please be careful to the following items.
- Do not clear hour meter and pulse meter.
  (for readjustment in the panel non-replacement)
- Input a setting value of label mention example as preparations
  (because a product panel does not have a label)

Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.

- Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
- There may be a case where the setting of a Adjustable resistor on the Assy is out of range.


B
X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the output value of each voltage from the X DRIVE Assy appropriate?
No
• Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
• There may be a case where the setting of a Adjustable resistor on the Assy is out of range.
Yes
D
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Replace the X DRIVE Assy.
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.

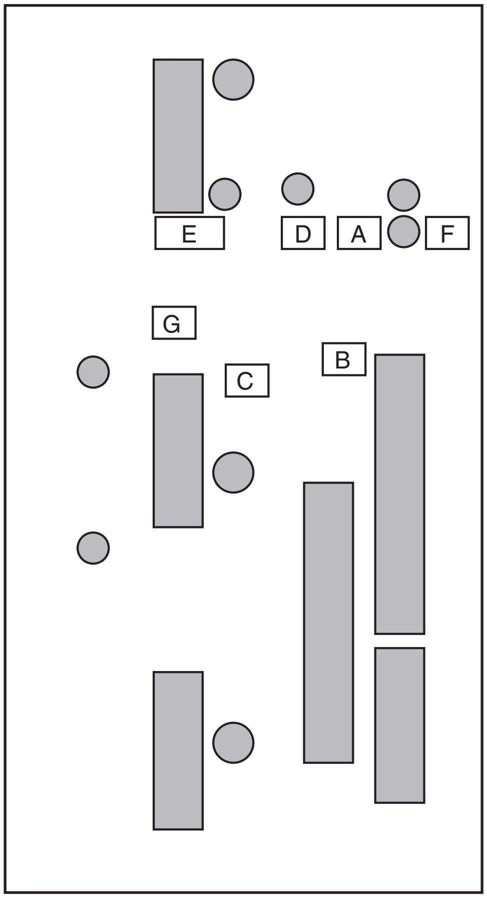

C
ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
No
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
* Waveform such as the signal is OK for an LVDS signal.
Replace the DIGITAL Assy.

Assy Name	Voltage to be Checked (V)	Adjustable Range		Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	50-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	101 to 157	CN2404 (*1)	Lower side of R2723 (*3)	VOFS_ADJ × 13.91 + 55.54	VOF value × 0.18 + 9.6
	VYRST	001 to 056	001 to 074	CN2401 (*1)	Upper side of R2621 (*3)	VYPRST_ADJ × 62.495 + 75.2	VRP value × 0.81 + 74.4
	VKNOFS1_2	054 to 107	121 to 164	CN2405 (*1)	Left side of R2754 (*3)	YVKNOFS1_ADJ × 36.85 + 159.3	(V1F value+VYF value-128) × 0.48 + 158.8
	VKNOFS3	065 to 117	107 to 149	CN2403 (*1)	Right side of R2757 (*3)	YVKNOFS3_ADJ × 36.85 + 159.3	(V3F value+VYF value-128) × 0.48 + 158.8
	VKNOFS4	111 to 164	151 to 193	CN2406 (*1)	Right side of R2755 (*3)	YVKNOFS4_ADJ × 36.85 + 159.3	(V4F value+VYF value-128) × 0.48 + 158.8
X DRIVE Assy	XKOFS1	105	085	CN1302 (*1)	K1402 (*1)	XKNOFS1_ADJ × 27.3 + 30	VX1 value × 0.35 + 29.7
	XKOFS2	063	047	CN1301 (*1)	K1401 (*1)	XKNOFS2_ADJ × 25.0 + 69.8	VX2 value × 0.32 + 69.5

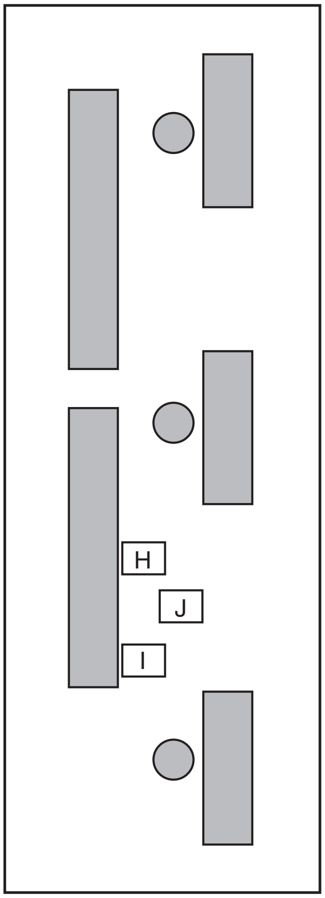
(*1): These parts have not been mounted.
(*2): It is recommended to measure the DAC output voltage with the drive off.
(*3): View when the Assy is mounted on the unit and viewed from the rear.

(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

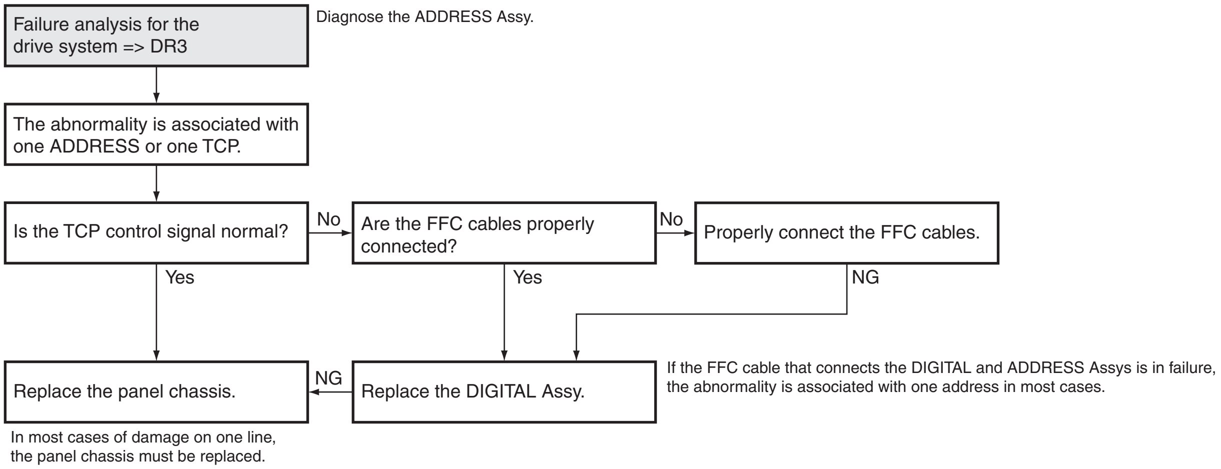
Diagrammatic view of the Y DRIVE Assy

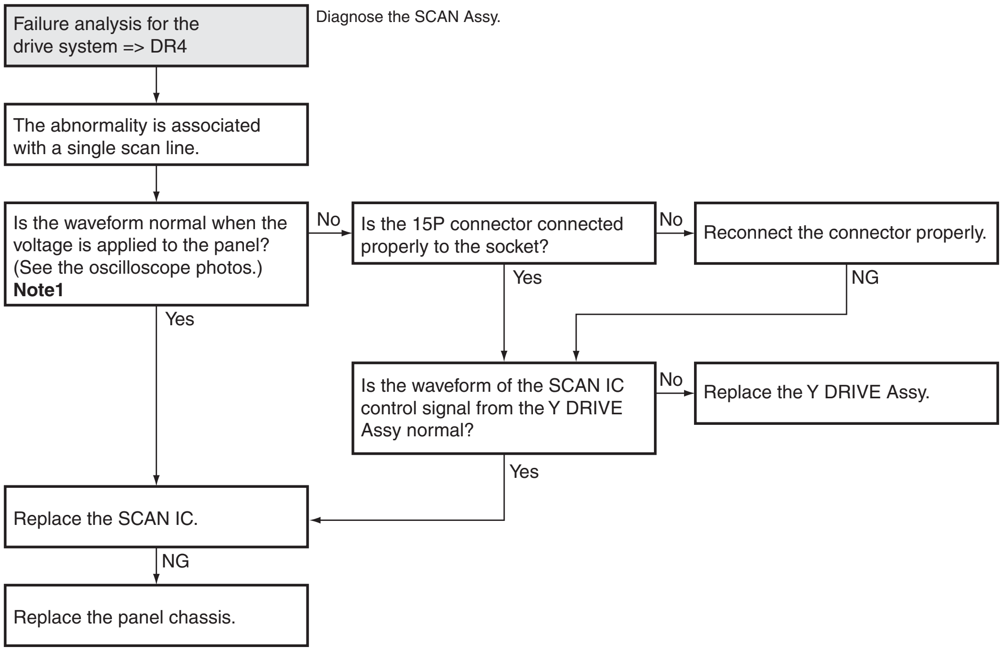


Diagrammatic view of the X DRIVE Assy



A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302


Failure analysis for the drive system => DR3
Diagnose the ADDRESS Assy.
The abnormality is associated with one ADDRESS or one TCP.
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.
If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
Diagnose the SCAN Assy.
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.) Note1
No
Is the 15P connector connected properly to the socket?
No
Reconnect the connector properly.
Yes
NG
Yes
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

Note 1:
In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)

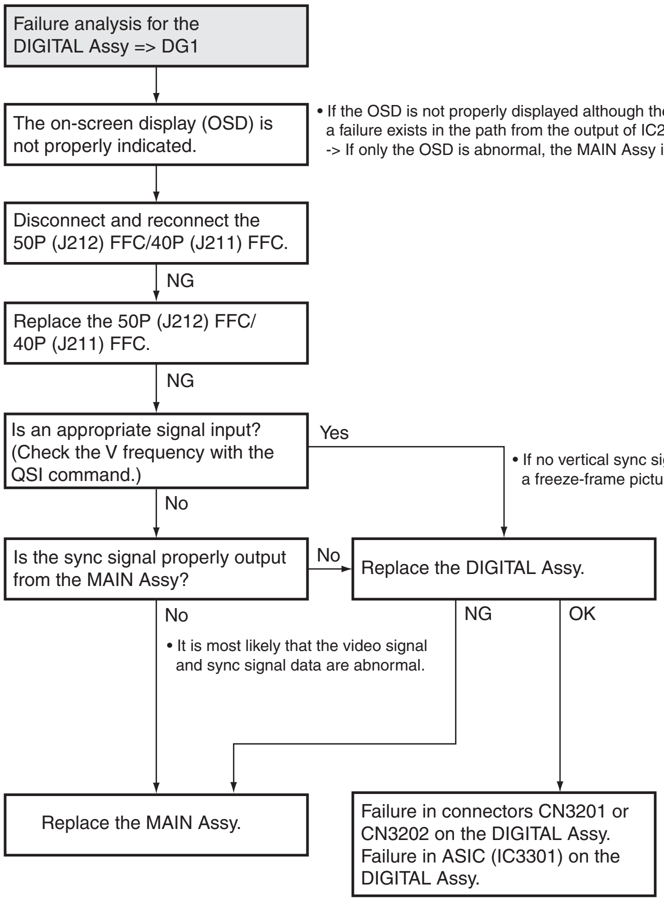
PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

[4] DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
Disconnect and reconnect the 50P (J212) FFC/40P (J211) FFC.
NG
Replace the 50P (J212) FFC/ 40P (J211) FFC.
NG
Is an appropriate signal input? (Check the V frequency with the QSI command.)
Yes
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the DIGITAL Assy.
No
NG
OK
Replace the MAIN Assy.
Failure in connectors CN3201 or CN3202 on the DIGITAL Assy. Failure in ASIC (IC3301) on the DIGITAL Assy.

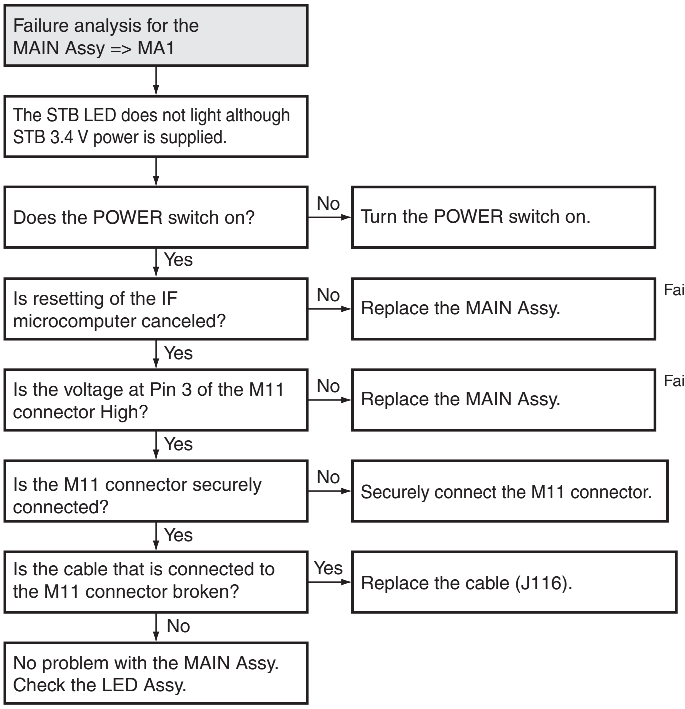
- If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC2801 on the MAIN Assy to IC3301 on the DIGITAL Assy. -> If only the OSD is abnormal, the MAIN Assy is in failure.

- If no vertical sync signal is input to the DIGITAL Assy, a freeze-frame picture will be displayed.

- It is most likely that the video signal and sync signal data are abnormal.

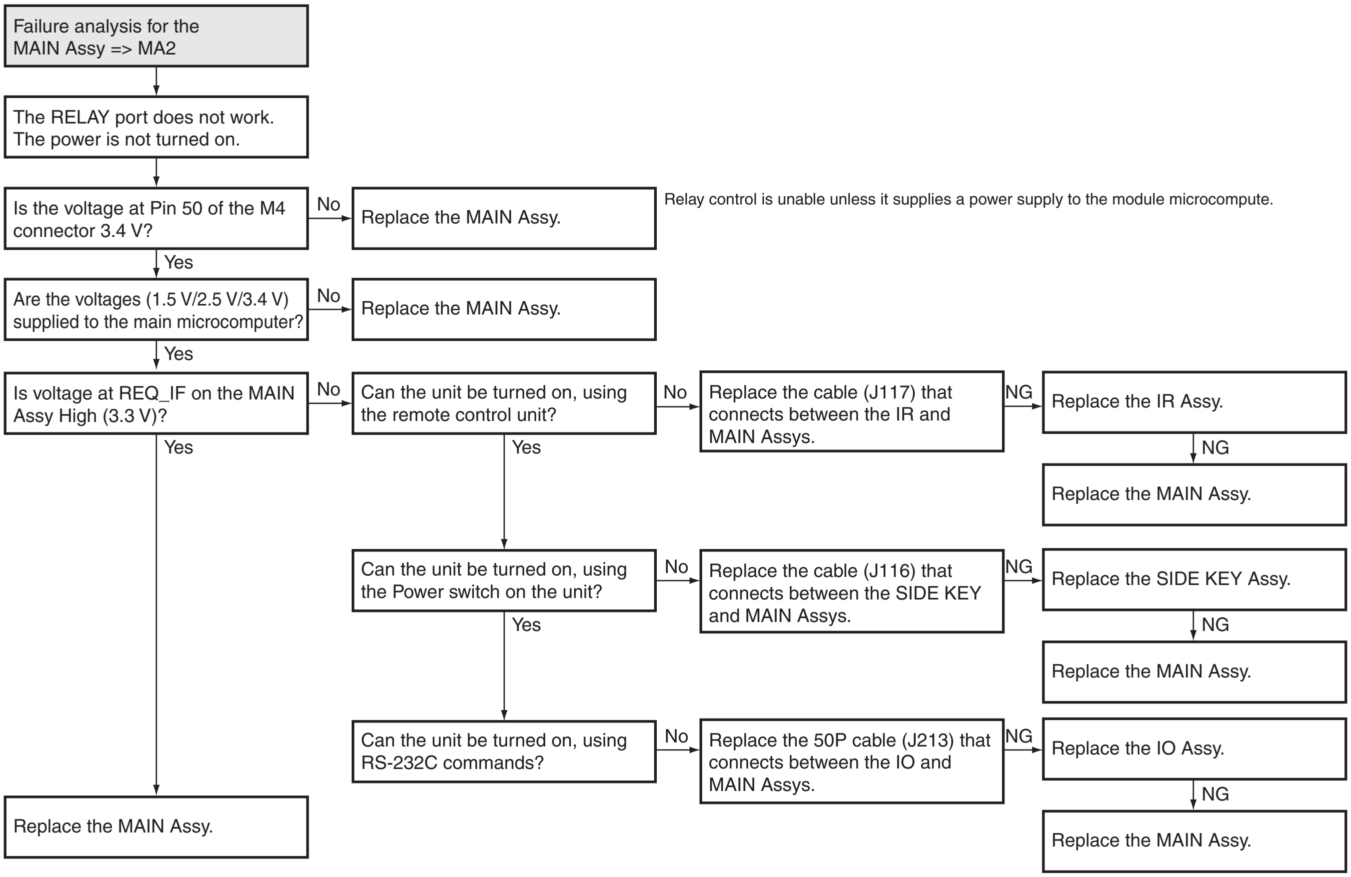
[5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy


Failure analysis for the MAIN Assy => MA1
The STB LED does not light although STB 3.4 V power is supplied.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J116).
No
No problem with the MAIN Assy. Check the LED Assy.

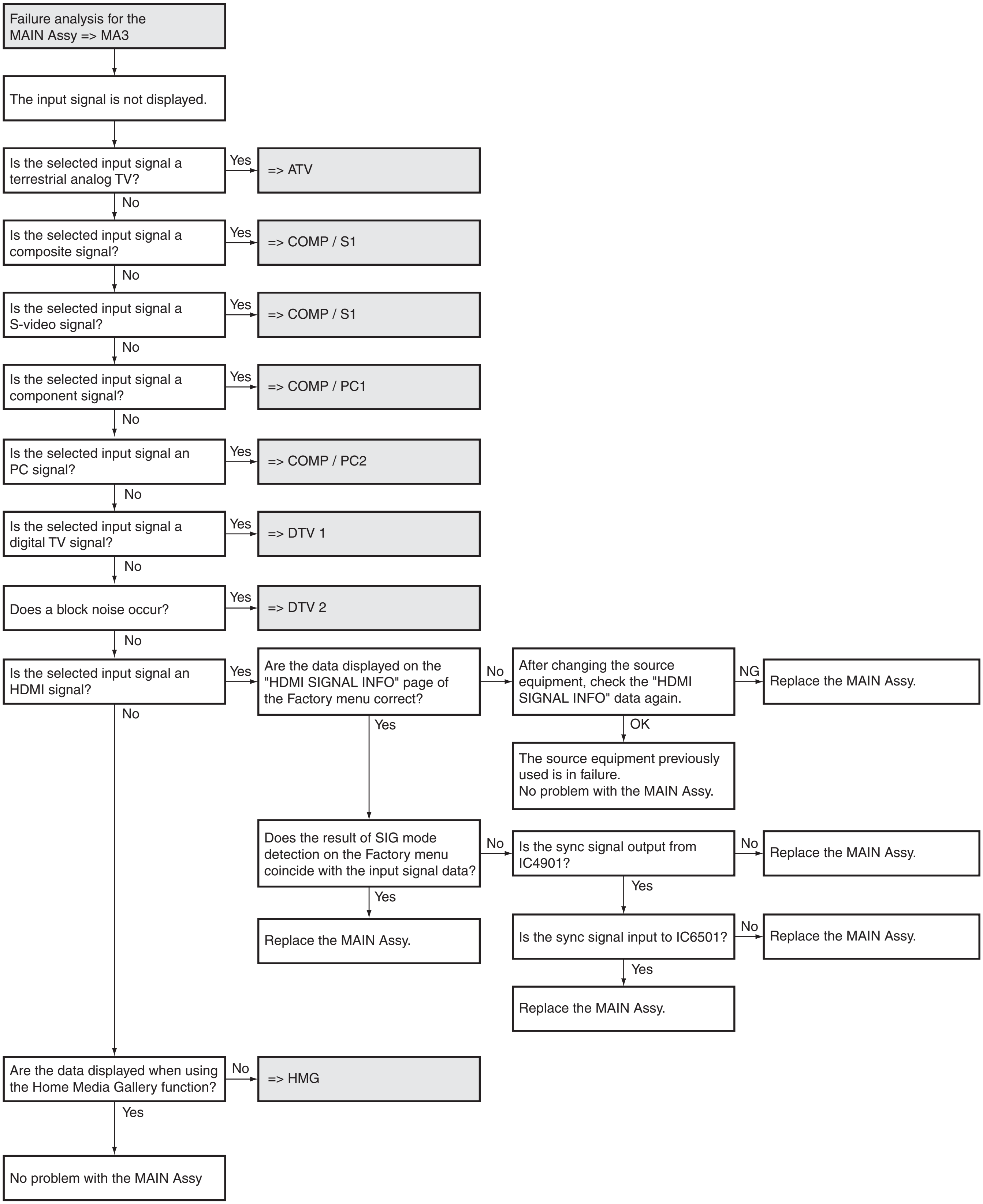
Failure in the RST IC (IC8302) output or its peripheral circuits

Failure in the line between the IF microcomputer and M11 connector


Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Is the voltage at Pin 50 of the M4 connector 3.4 V?
No
Replace the MAIN Assy.
Yes
Are the voltages (1.5 V/2.5 V/3.4 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
Yes
Is voltage at REQ_IF on the MAIN Assy High (3.3 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the cable (J117) that connects between the IR and MAIN Assys.
NG
Replace the IR Assy.
NG
Replace the MAIN Assy.
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable (J116) that connects between the SIDE KEY and MAIN Assys.
NG
Replace the SIDE KEY Assy.
NG
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 50P cable (J213) that connects between the IO and MAIN Assys.
NG
Replace the IO Assy.
NG
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.

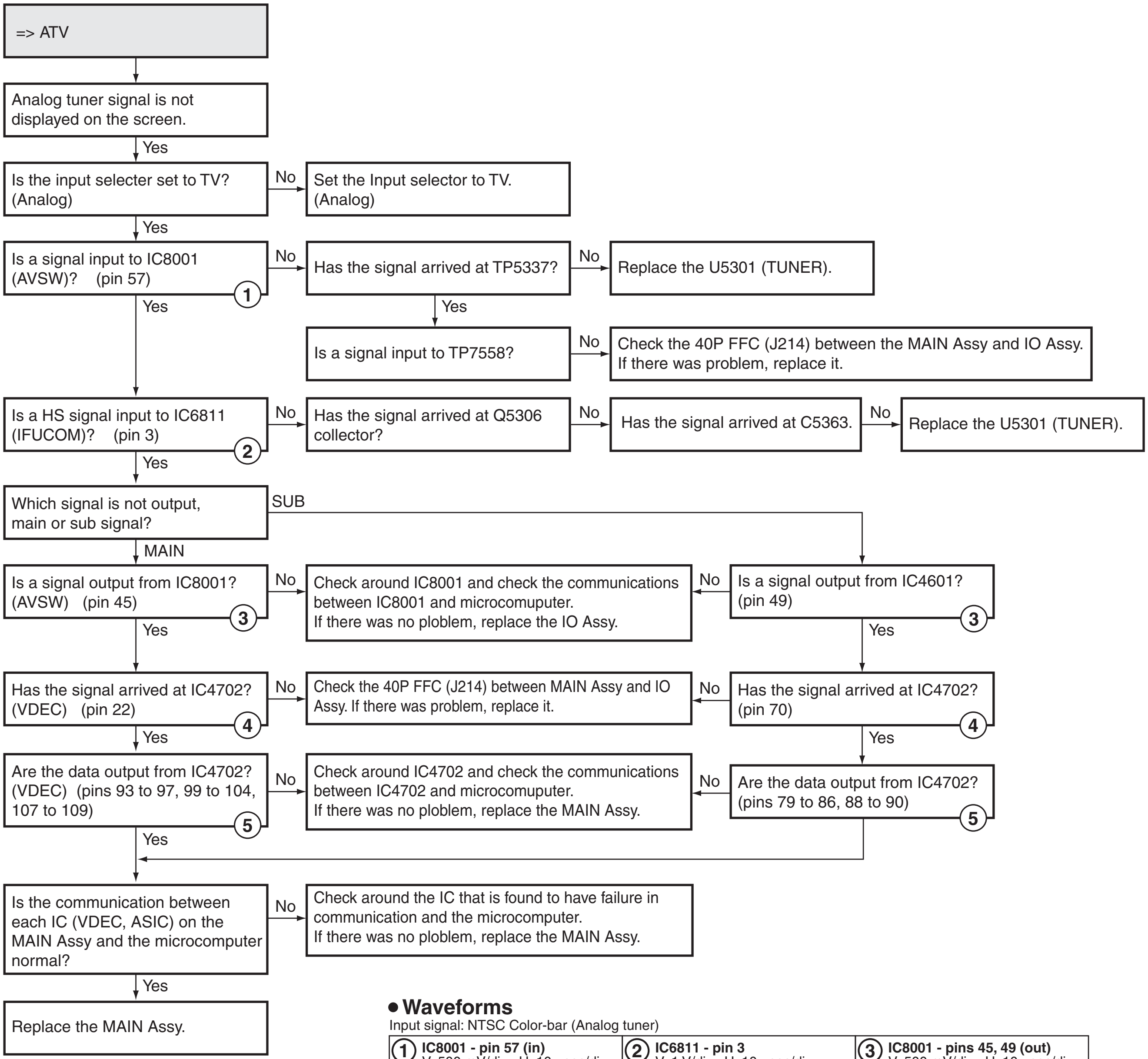
Relay control is unable unless it supplies a power supply to the module microcompute.

Flowchart of Failure Analysis for The Video System


Failure analysis for the MAIN Assy => MA3
The input signal is not displayed.
Is the selected input signal a terrestrial analog TV?
Yes
=> ATV
No
Is the selected input signal a composite signal?
Yes
=> COMP / S1
No
Is the selected input signal a S-video signal?
Yes
=> COMP / S1
No
Is the selected input signal a component signal?
Yes
=> COMP / PC1
No
Is the selected input signal an PC signal?
Yes
=> COMP / PC2
No
Is the selected input signal a digital TV signal?
Yes
=> DTV 1
No
Does a block noise occur?
Yes
=> DTV 2
No
Is the selected input signal an HDMI signal?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, check the "HDMI SIGNAL INFO" data again.
NG
Replace the MAIN Assy.
OK
The source equipment previously used is in failure. No problem with the MAIN Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC4901?
No
Replace the MAIN Assy.
Yes
Is the sync signal input to IC6501?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
No
Are the data displayed when using the Home Media Gallery function?
No
=> HMG
Yes
No problem with the MAIN Assy

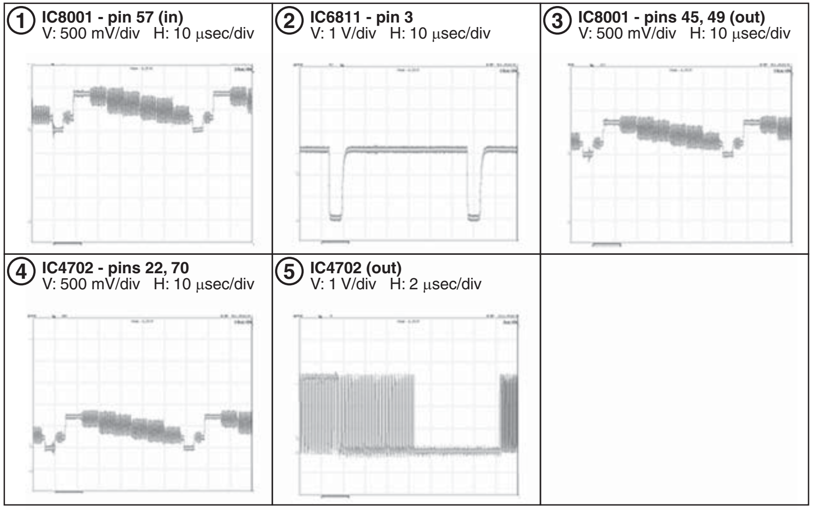
[6] VIDEO SYSTEM

Flowchart of Failure Analysis for The Video System


=> ATV
Analog tuner signal is not displayed on the screen.
Yes
Is the input selecter set to TV? (Analog)
No
Set the Input selector to TV. (Analog)
Yes
Is a signal input to IC8001 (AVSW)? (pin 57)
①
No
Has the signal arrived at TP5337?
No
Replace the U5301 (TUNER).
Yes
Is a signal input to TP7558?
No
Check the 40P FFC (J214) between the MAIN Assy and IO Assy. If there was problem, replace it.
Yes
Is a HS signal input to IC6811 (IFUCOM)? (pin 3)
②
No
Has the signal arrived at Q5306 collector?
No
Has the signal arrived at C5363.
No
Replace the U5301 (TUNER).
Yes
Which signal is not output, main or sub signal?
SUB
MAIN
Is a signal output from IC8001? (AVSW) (pin 45)
③
No
Check around IC8001 and check the communications between IC8001 and microcomuputer. If there was no ploblem, replace the IO Assy.
No
Is a signal output from IC4601? (pin 49)
③
Yes
Has the signal arrived at IC4702? (VDEC) (pin 22)
④
No
Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.
No
Has the signal arrived at IC4702? (pin 70)
④
Yes
Are the data output from IC4702? (VDEC) (pins 93 to 97, 99 to 104, 107 to 109)
⑤
No
Check around IC4702 and check the communications between IC4702 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Are the data output from IC4702? (pins 79 to 86, 88 to 90)
⑤
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

- **Waveforms**

Input signal: NTSC Color-bar (Analog tuner)

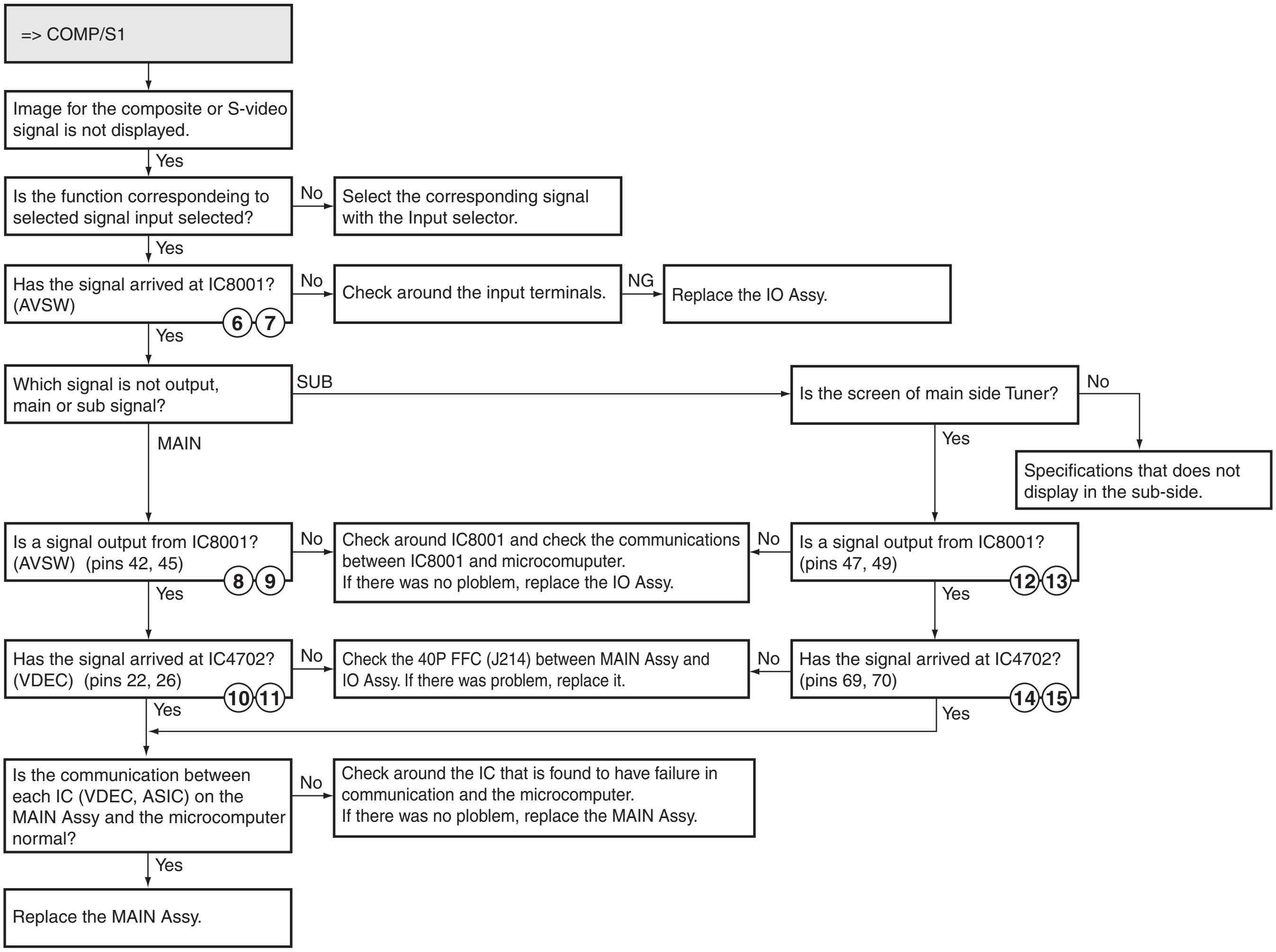

① **IC8001 - pin 57 (in)**
V: 500 mV/div H: 10 µsec/div

② **IC6811 - pin 3**
V: 1 V/div H: 10 µsec/div

③ **IC8001 - pins 45, 49 (out)**
V: 500 mV/div H: 10 µsec/div

④ **IC4702 - pins 22, 70**
V: 500 mV/div H: 10 µsec/div

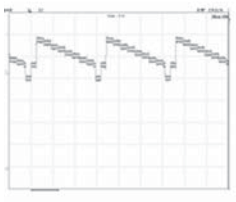
⑤ **IC4702 (out)**
V: 1 V/div H: 2 µsec/div


=> COMP/S1
Image for the composite or S-video signal is not displayed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC8001? (AVSW)
6 7
No
Check around the input terminals.
NG
Replace the IO Assy.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
Yes
MAIN
Is a signal output from IC8001? (AVSW) (pins 42, 45)
8 9
No
Check around IC8001 and check the communications between IC8001 and microcomuputer. If there was no plobelm, replace the IO Assy.
No
Is a signal output from IC8001? (pins 47, 49)
12 13
Yes
Yes
Has the signal arrived at IC4702? (VDEC) (pins 22, 26)
10 11
No
Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.
No
Has the signal arrived at IC4702? (pins 69, 70)
14 15
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no plobelm, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

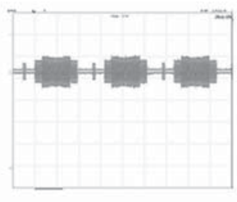
● Waveforms

Input signal: NTSC Color-bar (S termial)

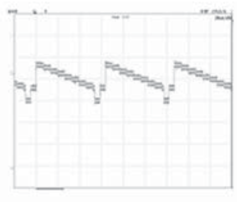
⑥ **IC8001 - pin 68 (Y)**
V: 500 mV/div H: 20 μsec/div



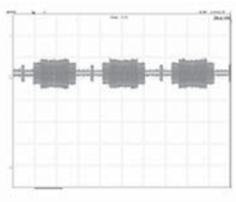
⑦ **IC8001 - pin 70 (C)**
V: 500 mV/div H: 20 μsec/div



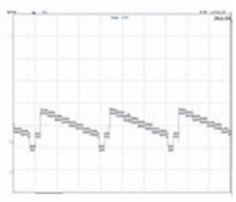
⑧ **IC8001 - pin 45 (Main Y)**
V: 500 mV/div H: 20 μsec/div



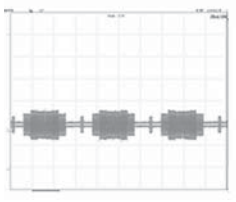
⑨ **IC8001 - pin 42 (Main C)**
V: 500 mV/div H: 20 μsec/div



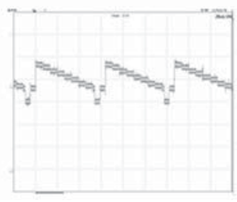
⑩ **IC4702 - pin 22 (Main Y)**
V: 500 mV/div H: 20 μsec/div



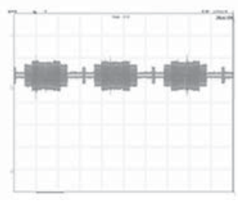
⑪ **IC4702 - pin 26 (Main C)**
V: 500 mV/div H: 20 μsec/div



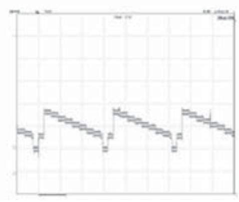
⑫ **IC8001 - pin 49 (Sub Y)**
V: 500 mV/div H: 20 μsec/div



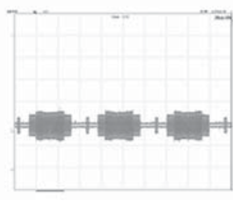
⑬ **IC8001 - pin 47 (Sub C)**
V: 500 mV/div H: 20 μsec/div

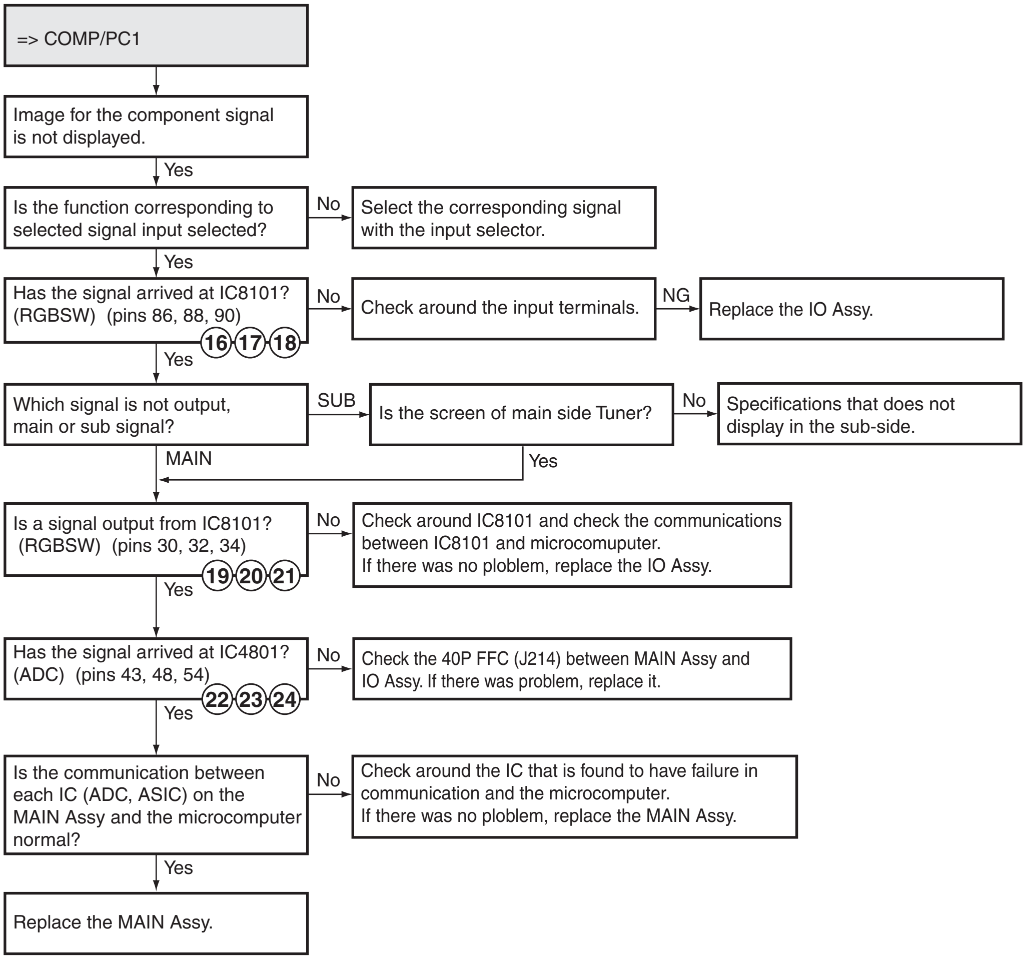


⑭ **IC4702 - pin 70 (Sub Y)**
V: 500 mV/div H: 20 μsec/div



⑮ **IC4702 - pin 69 (Sub C)**
V: 500 mV/div H: 20 μsec/div

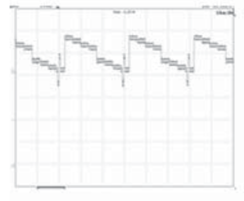



=> COMP/PC1
Image for the component signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC8101? (RGBSW) (pins 86, 88, 90)
⑯⑰⑱
No
Check around the input terminals.
NG
Replace the IO Assy.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
Yes
MAIN
Is a signal output from IC8101? (RGBSW) (pins 30, 32, 34)
⑲⑳㉑
No
Check around IC8101 and check the communications between IC8101 and microcomuputer.
If there was no ploblem, replace the IO Assy.
Yes
Has the signal arrived at IC4801? (ADC) (pins 43, 48, 54)
㉒㉓㉔
No
Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer.
If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

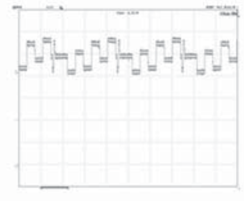
• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)

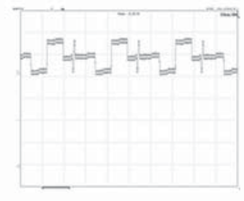
⑯ IC8101 - pin 86 (Y)
V: 500 mV/div H: 20 μsec/div



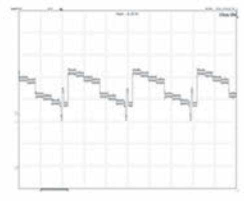
⑰ IC8101 - pin 88 (Pb)
V: 500 mV/div H: 20 μsec/div



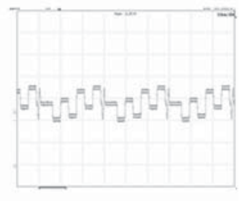
⑱ IC8101 - pin 90 (Pr)
V: 500 mV/div H: 20 μsec/div



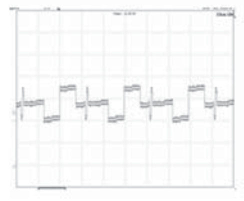
⑲ IC8101 - pin 34 (Y)
V: 500 mV/div H: 20 μsec/div



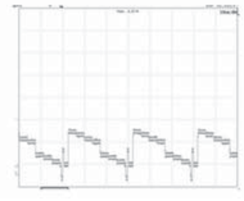
⑳ IC8101 - pin 32 (Pb)
V: 500 mV/div H: 20 μsec/div



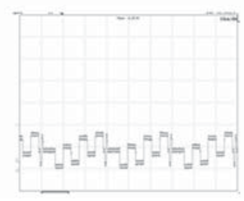
㉑ IC8101 - pin 30 (Pr)
V: 500 mV/div H: 20 μsec/div



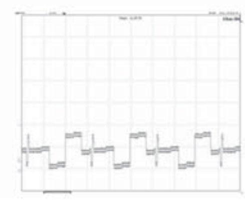
㉒ IC4801 - pin 48 (Y)
V: 500 mV/div H: 20 μsec/div

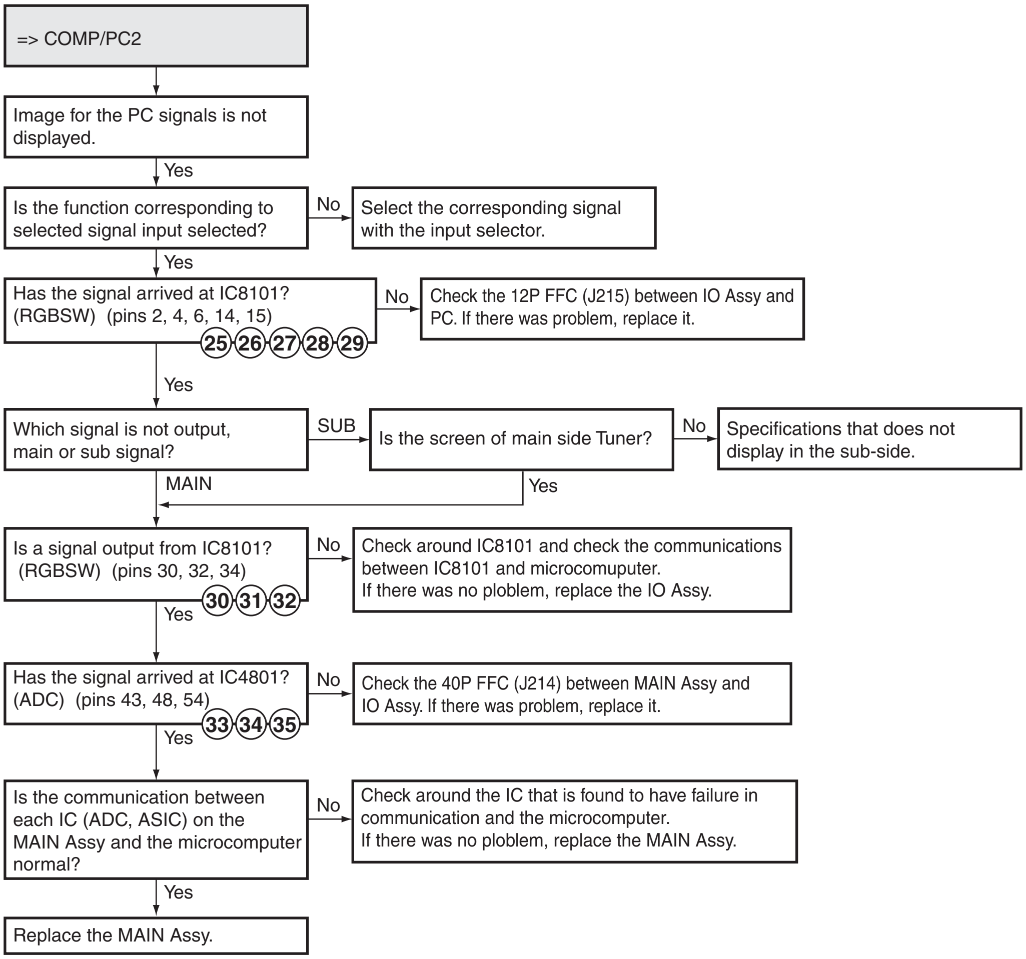


㉓ IC4801 - pin 43 (Pb)
V: 500 mV/div H: 20 μsec/div



㉔ IC4801 - pin 54 (Pr)
V: 500 mV/div H: 20 μsec/div

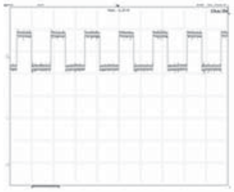



=> COMP/PC2
Image for the PC signals is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC8101? (RGBSW) (pins 2, 4, 6, 14, 15)
㉕㉖㉗㉘㉙
No
Check the 12P FFC (J215) between IO Assy and PC. If there was problem, replace it.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
Yes
MAIN
Is a signal output from IC8101? (RGBSW) (pins 30, 32, 34)
㉚㉛㉜
No
Check around IC8101 and check the communications between IC8101 and microcomuputer. If there was no ploblem, replace the IO Assy.
Yes
Has the signal arrived at IC4801? (ADC) (pins 43, 48, 54)
㉝㉞㉟
No
Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

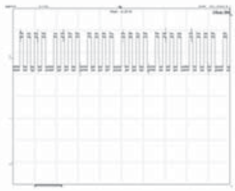
• Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)

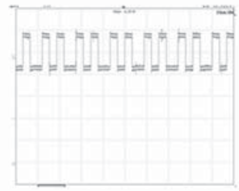
㉕ **IC8101 - pin 2 (G in)**
V: 500 mV/div H: 10 µsec/div



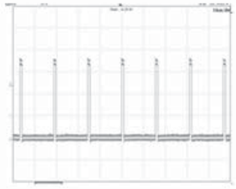
㉖ **IC8101 - pin 4 (B in)**
V: 500 mV/div H: 10 µsec/div



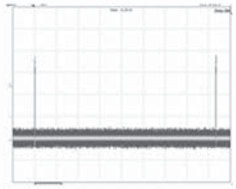
㉗ **IC8101 - pin 6 (R in)**
V: 500 mV/div H: 10 µsec/div



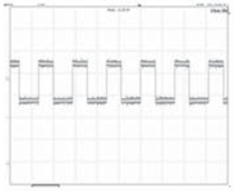
㉘ **IC8101 - pin 14 (HD in)**
V: 1 V/div H: 10 µsec/div
(polarity is no care)



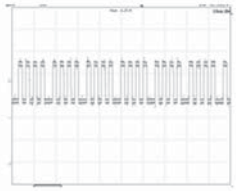
㉙ **IC8101 - pin 15 (VD in)**
V: 1 V/div H: 2 msec/div
(polarity is no care)



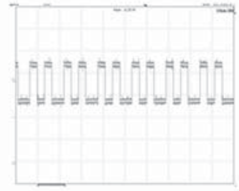
㉚ **IC8101 - pin 34 (G out)**
V: 500 mV/div H: 10 µsec/div



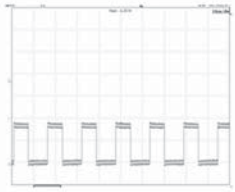
㉛ **IC8101 - pin 32 (B out)**
V: 500 mV/div H: 10 µsec/div



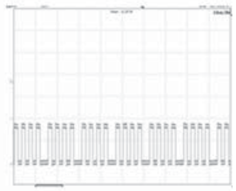
㉜ **IC8101 - pin 30 (R out)**
V: 500 mV/div H: 10 µsec/div



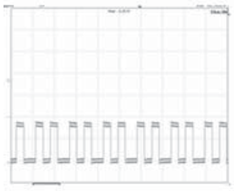
㉝ **IC4801 - pin 48 (G)**
V: 500 mV/div H: 10 µsec/div

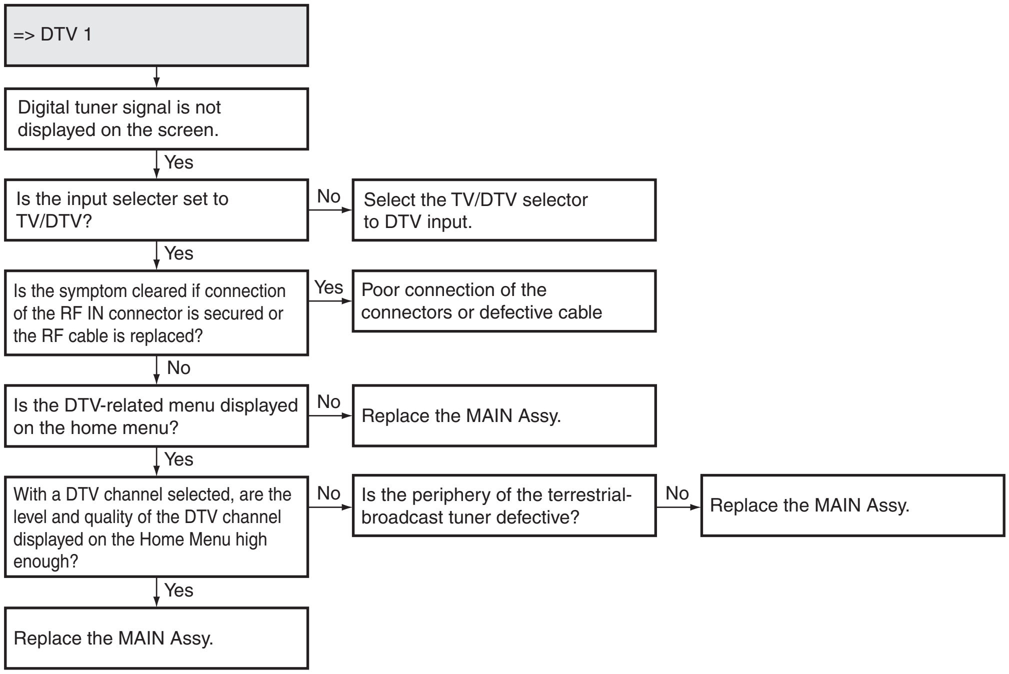


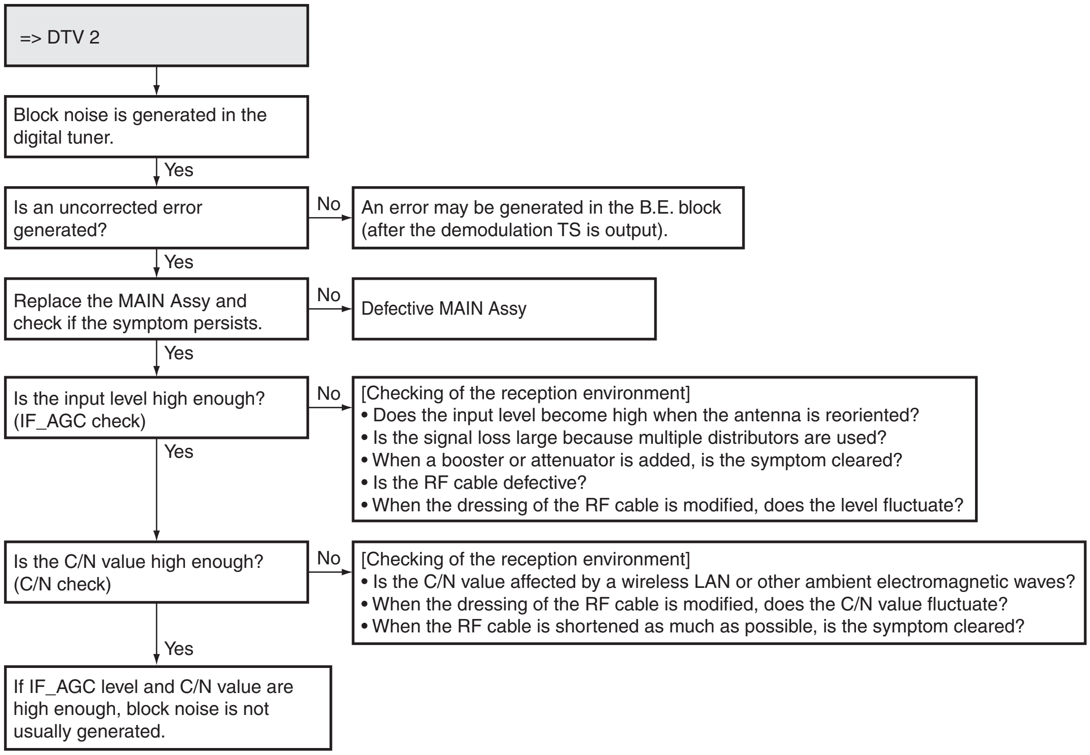
㉞ **IC4801 - pin 43 (B)**
V: 500 mV/div H: 10 µsec/div



㉟ **IC4801 - pin 54 (R)**
V: 500 mV/div H: 10 µsec/div




=> DTV 1
Digital tuner signal is not displayed on the screen.
Yes
Is the input selecter set to TV/DTV?
No
Select the TV/DTV selector to DTV input.
Yes
Is the symptom cleared if connection of the RF IN connector is secured or the RF cable is replaced?
Yes
Poor connection of the connectors or defective cable
No
Is the DTV-related menu displayed on the home menu?
No
Replace the MAIN Assy.
Yes
With a DTV channel selected, are the level and quality of the DTV channel displayed on the Home Menu high enough?
No
Is the periphery of the terrestrial-broadcast tuner defective?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.


=> DTV 2
Block noise is generated in the digital tuner.
Yes
Is an uncorrected error generated?
No
An error may be generated in the B.E. block (after the demodulation TS is output).
Yes
Replace the MAIN Assy and check if the symptom persists.
No
Defective MAIN Assy
Yes
Is the input level high enough? (IF_AGC check)
No
[Checking of the reception environment]
• Does the input level become high when the antenna is reoriented?
• Is the signal loss large because multiple distributors are used?
• When a booster or attenuator is added, is the symptom cleared?
• Is the RF cable defective?
• When the dressing of the RF cable is modified, does the level fluctuate?
Yes
Is the C/N value high enough? (C/N check)
No
[Checking of the reception environment]
• Is the C/N value affected by a wireless LAN or other ambient electromagnetic waves?
• When the dressing of the RF cable is modified, does the C/N value fluctuate?
• When the RF cable is shortened as much as possible, is the symptom cleared?
Yes
If IF_AGC level and C/N value are high enough, block noise is not usually generated.

■ Details on how to confirm the factory DTV tuning status

Generation of block noise

↓

Check the modulation method with which block noise is generated.

QAM256	QAM64	VSB8

↓ Is generation of noise dependent on the modulation method?

Check the frequency at which block noise is generated.

All channels	Only at a certain frequency	Not generated

↓ Is generation of noise dependent on the frequency?

Depending on how block noise is generated, obtain the DTV tuning status.
(Two-page screen data, as indicated on the right)

Obtain the DTV tuning status for QAM256 and QAM64, regardless of whether noise is generated or not. With a terrestrial- broadcast wave, obtain the status for VSB8 only. Then, if noise is generated at a certain frequency but not generated at another frequency even though the modulation method is the same, obtain the statuses for both frequencies.
Timing of obtaining a status is 60 sec after the beginning of measurement.
Resetting of a measurement value can be done with the "⬅" or "➡" key.

↓

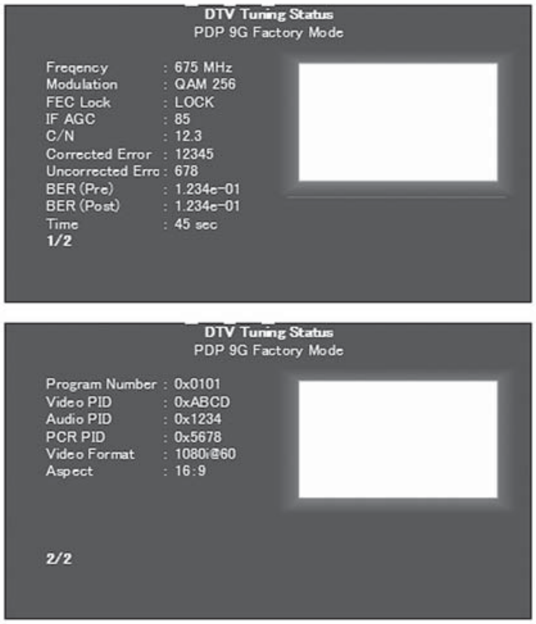
How to check the frequency and modulation method and how to obtain the status

- Is generation of block noise dependent on the frequency/modulation method? → Check the "Frequency" and "Modulation" items.
- Is the input level high enough? → Check the "IF AGC" item.
- Is the signal quality high? → Check the "C/N," "Error," and "BER" items.

↓

Factory	Press the Factory key.
INITIALIZE	Press the Mute key three times.
DTB SERVICE MODE	Press the "⬇" key twice then the Enter key.
Digital Tuner Service Menu	Press the "➡" key to select YES for MODE SHIFT then hold the Enter key pressed for several seconds.
Digital	Select Digital from the menu then press the Enter key.
DTV Tuning Status	Select DTV Tuning Status from the menu then press the Enter key.

Screen example of DTV Tuning Status (Two-pages)



DTV Tuning Status
PDP 9G Factory Mode

Freqency : 675 MHz
Modulation : QAM 256
FEC Lock : LOCK
IF AGC : 85
C/N : 12.3
Corrected Error : 12345
Uncorrected Erro : 678
BER (Pre) : 1.234e-01
BER (Post) : 1.234e-01
Time : 45 sec
1/2

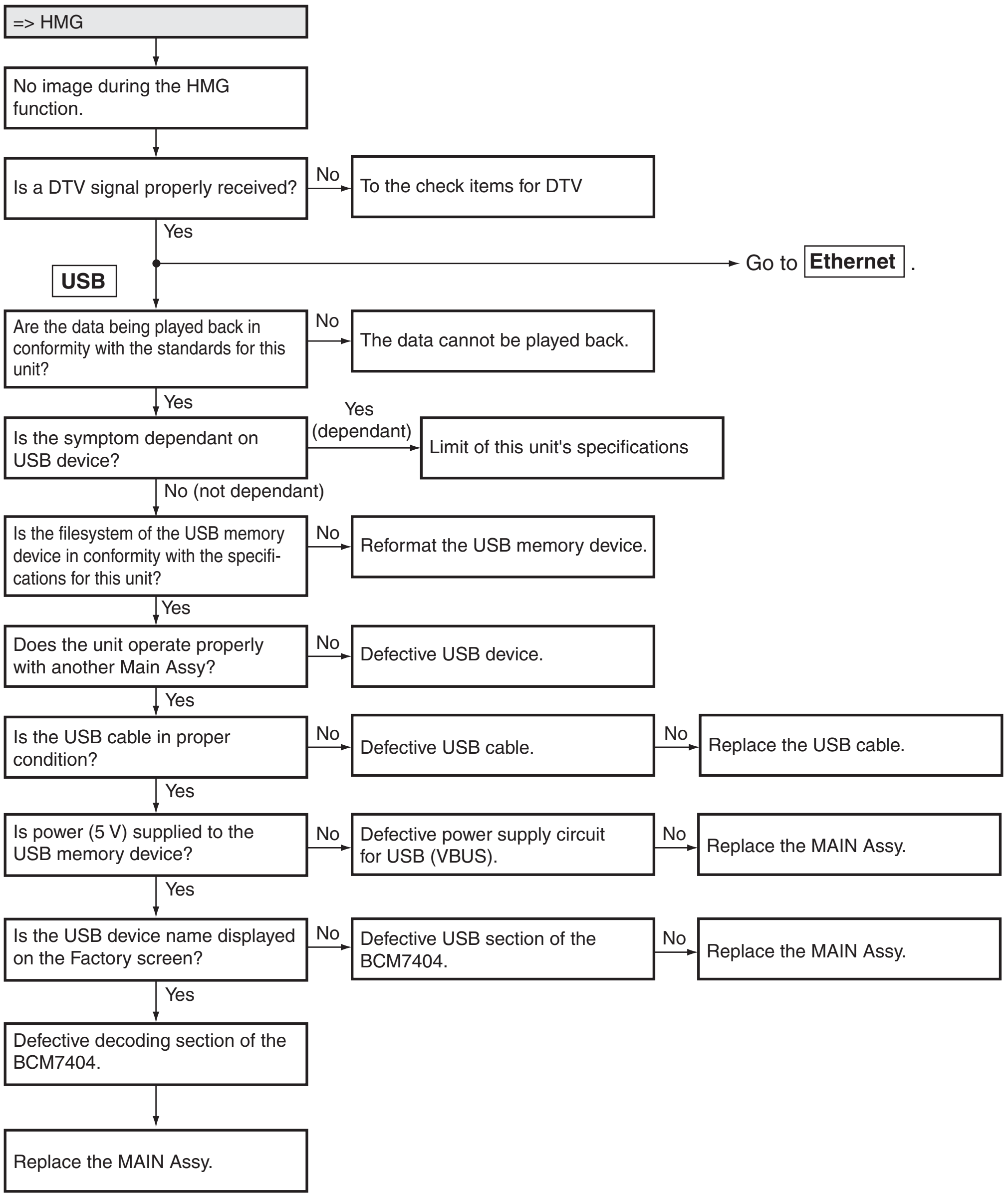
DTV Tuning Status
PDP 9G Factory Mode

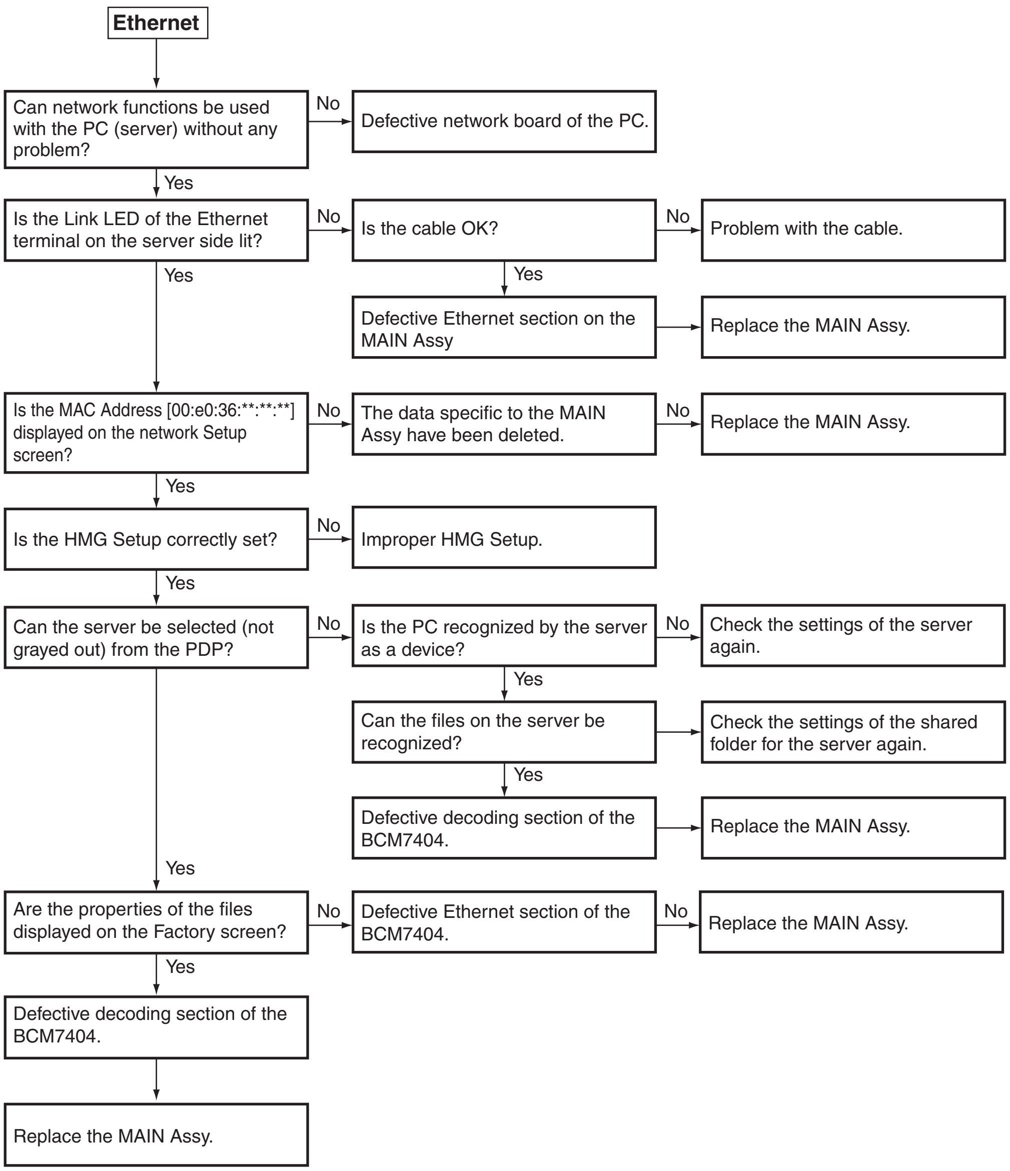
Program Number : 0x0101
Video PID : 0xABCD
Audio PID : 0x1234
PCR PID : 0x5678
Video Format : 1080i@60
Aspect : 16:9
2/2

Frequency	Check the frequency.	Is block noise generated at a particular frequency or on all channels? If only at a particular frequency, a wireless LAN or another ambient electromagnetic disturbing wave, such as a terrestrial-broadcast wave, may disturb the reception. If on all channels, the Assy may be defective. → Replace the Assy and check the status to see if the symptom is cleared.
Modulation	Check the modulation method.	With a cable modem, is block noise generated with QAM256 or QAM64 or both? If noise is generated with either of them, the signal quality of the transmitting device may be low. If noise is generated only with QAM256, the reception level or the C/N value may be low. If noise is generated with VSB8, multiple paths may be the cause.
FEC LOCK	Check the status of the demodulation IC.	Check if LOCK is indicated. Even if block noise is generated, LOCK is indicated if a picture is displayed.
IF AGC	Check the IF AGC voltage.	Is the IF AGC voltage level high enough? The following table provides an indication of the level. QAM256 QAM64 VSB8 less than 50 less than 55 less than 60 If the levels fall into the above ranges, usually noise is not generated (use the above ranges only as a guide. They vary depending on the frequency). If noise is generated even though the signal level is sufficient, ambient electromagnetic waves or multiple paths may be the cause. If the levels of all channels are low, the level of signal input to the ANT connector may be low. Check the input signal level with a spectrum analyzer.
C/N	Check the C/N value.	Is the C/N value high enough? The following table provides an indication of the level. QAM256 QAM64 VSB8 more than 30 more than 25 more than 18 If the level falls into the above ranges, usually noise is not generated (use the above ranges only as a guide. They vary depending on the frequency).
Corrected Error	Check the count of a PreFEC error.	Was a PreFEC error actually generated? QAM256 QAM64 VSB8 Indication - - -
Uncorrected Error	Check the count of a PostFEC error.	Was a PostFEC error actually generated? The following table provides an indication of the level. QAM256 QAM64 VSB8 0 0 0 If the level falls into the above ranges, usually noise is not generated. If noise is generated even though the error count is zero, an error may be generated at the B.E. block (after the demodulation TS is output).
BER(Pre)	Check BER of a PreFEC error.	Was a PreFEC error actually generated? The following table provides an indication of the level. QAM256 QAM64 VSB8 less than 1.000e-06 less than 1.000e-06 less than 1.000e-04 If the level falls into the above ranges, usually noise is not generated (use the above ranges only as a guide. They vary depending on the frequency).
BER(Post)	Check BER of a PostFEC error.	Was a PostFEC error actually generated? The following table provides an indication of the level. QAM256 QAM64 VSB8 0.000e + 00 0.000e + 00 0.000e + 00 If the level falls into the above ranges, usually noise is not generated (use the above ranges only as a guide. They vary depending on the frequency). If noise is generated even though the value is in the range of 0.0E-00, an error may be generated at the B.E. block (after the demodulation TS is output).
Time	Measurement time	Accumulated measurement time

[7] HOME MEDIA GALLERY

Flowchart of Failure Analysis for The HMG


=> HMG
No image during the HMG function.
Is a DTV signal properly received?
No
To the check items for DTV
Yes
Go to Ethernet .
USB
Are the data being played back in conformity with the standards for this unit?
No
The data cannot be played back.
Yes
Is the symptom dependant on USB device?
Yes (dependant)
Limit of this unit's specifications
No (not dependant)
Is the filesystem of the USB memory device in conformity with the specifications for this unit?
No
Reformat the USB memory device.
Yes
Does the unit operate properly with another Main Assy?
No
Defective USB device.
Yes
Is the USB cable in proper condition?
No
Defective USB cable.
No
Replace the USB cable.
Yes
Is power (5 V) supplied to the USB memory device?
No
Defective power supply circuit for USB (VBUS).
No
Replace the MAIN Assy.
Yes
Is the USB device name displayed on the Factory screen?
No
Defective USB section of the BCM7404.
No
Replace the MAIN Assy.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN Assy.


Ethernet
Can network functions be used with the PC (server) without any problem?
No
Defective network board of the PC.
Yes
Is the Link LED of the Ethernet terminal on the server side lit?
No
Is the cable OK?
No
Problem with the cable.
Yes
Defective Ethernet section on the MAIN Assy
Replace the MAIN Assy.
Yes
Is the MAC Address [00:e0:36:**:**:**] displayed on the network Setup screen?
No
The data specific to the MAIN Assy have been deleted.
No
Replace the MAIN Assy.
Yes
Is the HMG Setup correctly set?
No
Improper HMG Setup.
Yes
Can the server be selected (not grayed out) from the PDP?
No
Is the PC recognized by the server as a device?
No
Check the settings of the server again.
Yes
Can the files on the server be recognized?
Check the settings of the shared folder for the server again.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN Assy.
Yes
Are the properties of the files displayed on the Factory screen?
No
Defective Ethernet section of the BCM7404.
No
Replace the MAIN Assy.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN Assy.

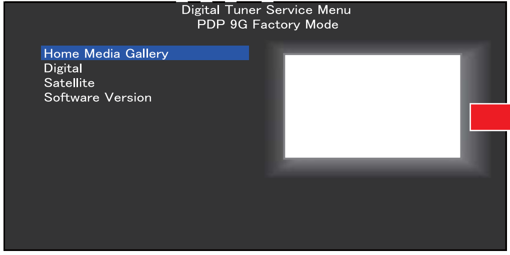
[HMG] How to enter DTB Service menu

Note: Use the remote control unit that supports Factory mode, because the DTB Service menu is accessible from Factory mode.

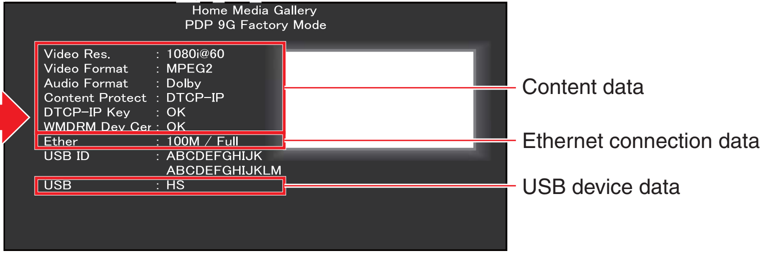
Step 1: Press the Factory key on the remote control unit to display the INFORMATION screen of Factory mode.
Step 2: Press the Mute key on the remote control unit 3 times to display the INITIALIZE screen.
Step 3: Press the ⬇ key on the remote control unit twice to display the “DTB SERVICE MODE (+)” indication at the bottom of the screen.
Step 4: Press the ENTER/SET key on the remote control unit to display the “MODE SHIFT <=>: No” indication at the bottom of the screen.
Step 5: Press the ⬅ or ➡ key on the remote control unit until the “MODE SHIFT <=>: YES” indication is displayed at the bottom of the screen.
Step 6: Press and hold the ENTER/SET key on the remote control unit pressed for 5 seconds or more to activate DTB Service menu.

The Home Media Gallery (HMG) Service menu is indicated below:

Top page of DTB Service menu


Digital Tuner Service Menu
PDP 9G Factory Mode
Home Media Gallery
Digital
Satellite
Software Version

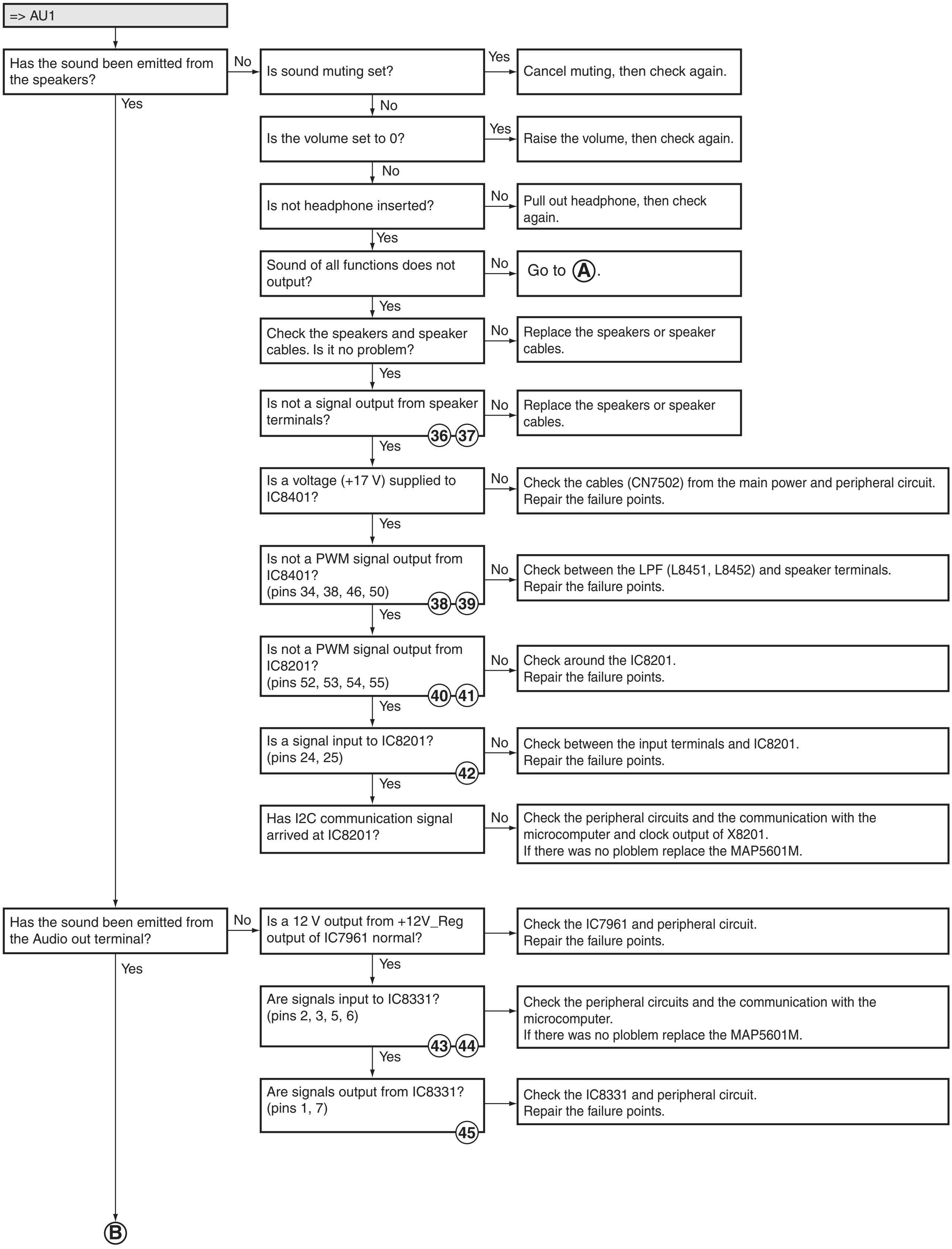
Home Media Gallery Service menu

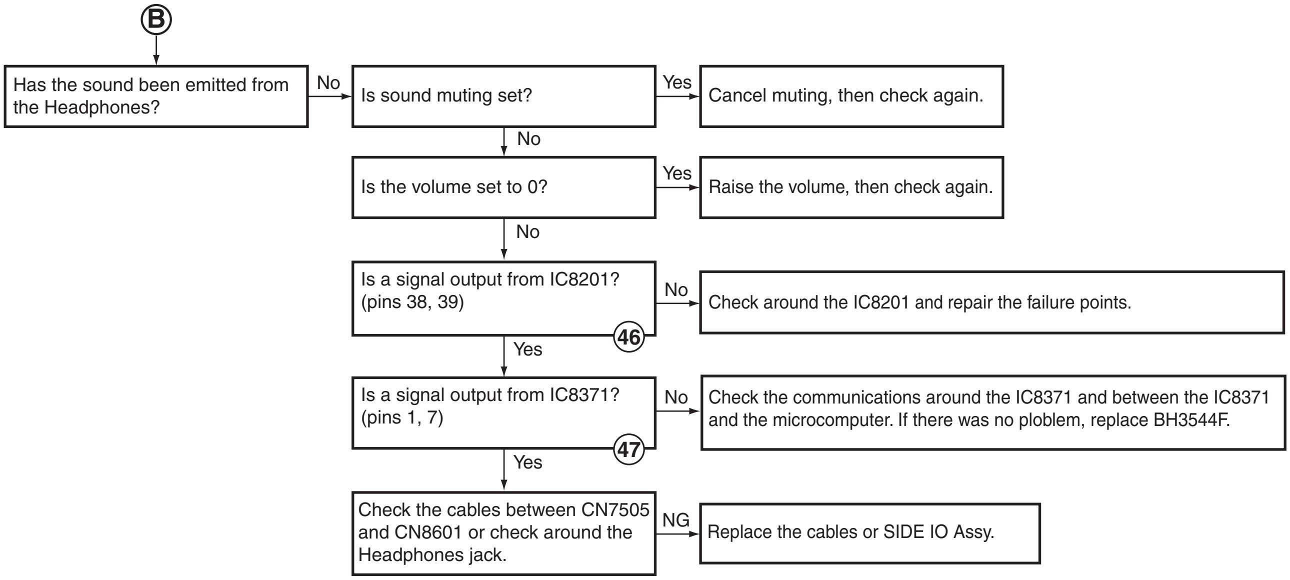

Home Media Gallery
PDP 9G Factory Mode
Content data
Ethernet connection data
USB device data

```
Video Res.       : 1080i@60
Video Format     : MPEG2
Audio Format     : Dolby
Content Protect  : DTCP-IP
DTCP-IP Key      : OK
WMDRM Dev Cer    : OK
Ether            : 100M / Full
USB ID           : ABCDEFGHIJK
                   ABCDEFGHIJKLM
USB              : HS
```

[8] AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System

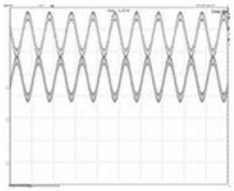

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is not a signal output from speaker terminals?
㊱ ㊲
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+17 V) supplied to IC8401?
No
Check the cables (CN7502) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC8401? (pins 34, 38, 46, 50)
㊳ ㊴
No
Check between the LPF (L8451, L8452) and speaker terminals. Repair the failure points.
Yes
Is not a PWM signal output from IC8201? (pins 52, 53, 54, 55)
㊵ ㊶
No
Check around the IC8201. Repair the failure points.
Yes
Is a signal input to IC8201? (pins 24, 25)
㊷
No
Check between the input terminals and IC8201. Repair the failure points.
Yes
Has I2C communication signal arrived at IC8201?
No
Check the peripheral circuits and the communication with the microcomputer and clock output of X8201. If there was no ploblem replace the MAP5601M.
Yes
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC7961 normal?
Check the IC7961 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC8331? (pins 2, 3, 5, 6)
㊸ ㊹
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MAP5601M.
Yes
Are signals output from IC8331? (pins 1, 7)
㊺
Check the IC8331 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC8201? (pins 38, 39)
㊻
No
Check around the IC8201 and repair the failure points.
Yes
Is a signal output from IC8371? (pins 1, 7)
㊼
No
Check the communications around the IC8371 and between the IC8371 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN7505 and CN8601 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

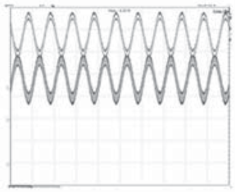
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

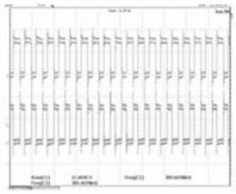
㊱ **JA8551 - pins 1, 2**
V: 2 V/div H: 1 mS/div



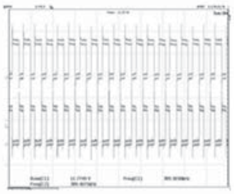
㊲ **JA8551 - pins 3, 4**
V: 2 V/div H: 1 mS/div



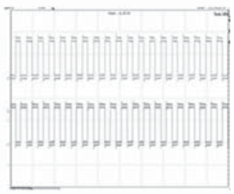
㊳ **IC8401 - pins 34, 38**
V: 10 V/div H: 5 µS/div



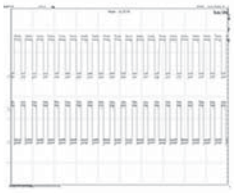
㊴ **IC8401 - pins 46, 50**
V: 10 V/div H: 5 µS/div



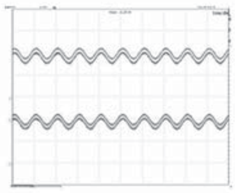
㊵ **IC8201 - pins 52, 53**
V: 2 V/div H: 5 µS/div



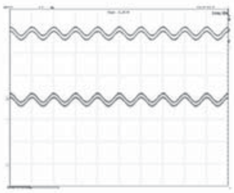
㊶ **IC8201 - pins 54, 55**
V: 2 V/div H: 5 µS/div



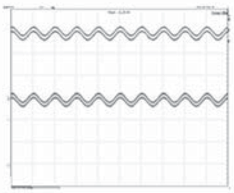
㊷ **IC8201 - pins 24, 25**
V: 2 V/div H: 1 mS/div



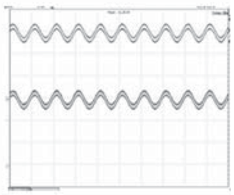
㊸ **IC8331 - pins 2, 3**
V: 2 V/div H: 1 mS/div



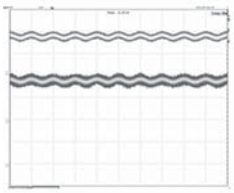
㊹ **IC8331 - pins 5, 6**
V: 2 V/div H: 1 mS/div



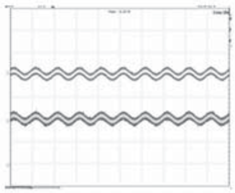
㊺ **IC8331 - pin 17**
V: 2 V/div H: 1 mS/div

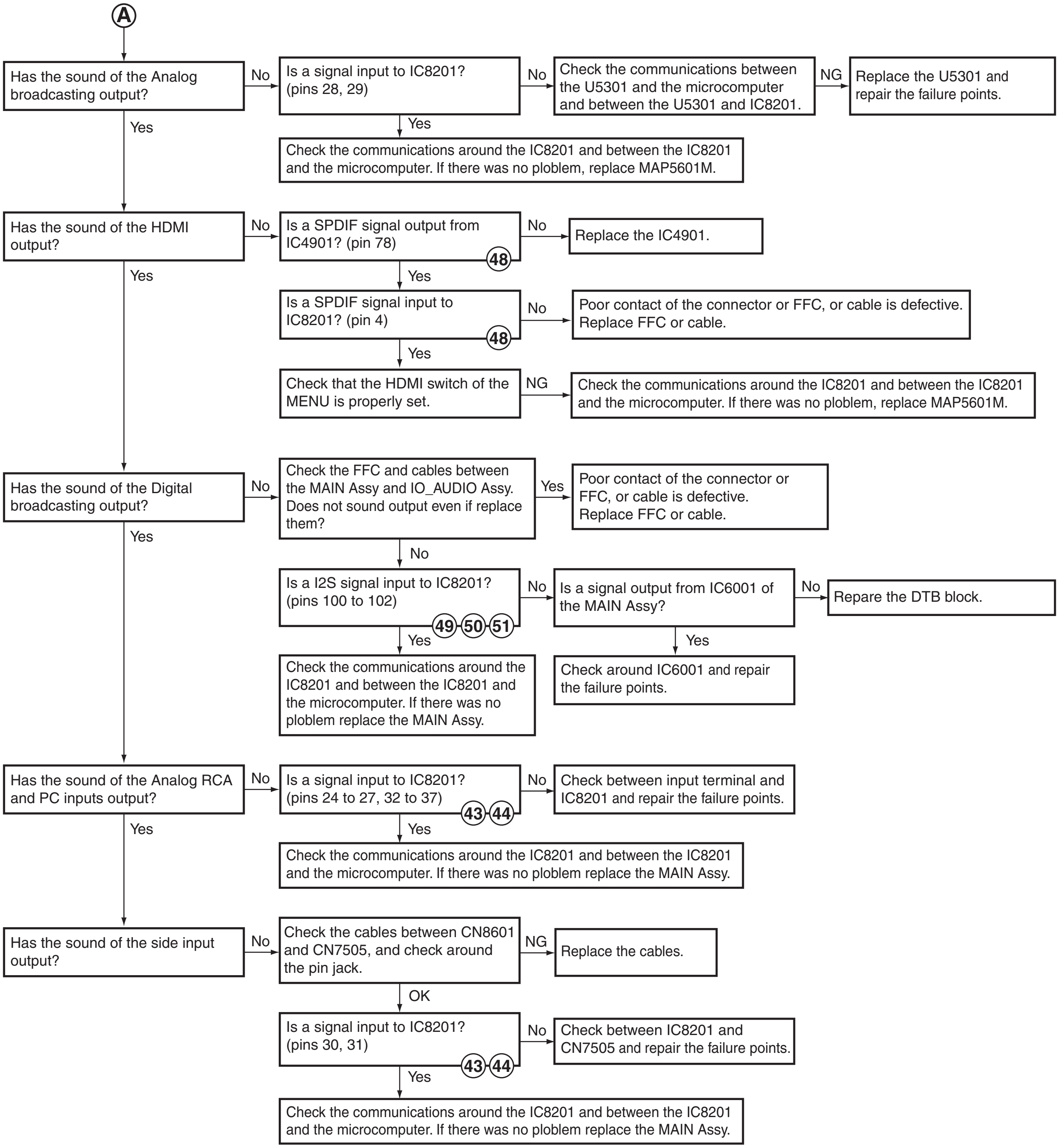


㊻ **IC8201 - pins 38, 39**
V: 1 V/div H: 1 mS/div



㊼ **IC8271 - pins 1, 7**
V: 1 V/div H: 1 mS/div

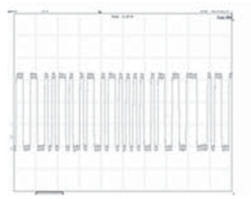



A
Has the sound of the Analog broadcasting output?
No
Is a signal input to IC8201? (pins 28, 29)
No
Check the communications between the U5301 and the microcomputer and between the U5301 and IC8201.
NG
Replace the U5301 and repair the failure points.
Yes
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no ploblem, replace MAP5601M.
Yes
Has the sound of the HDMI output?
No
Is a SPDIF signal output from IC4901? (pin 78)
48
No
Replace the IC4901.
Yes
Is a SPDIF signal input to IC8201? (pin 4)
48
No
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
Check that the HDMI switch of the MENU is properly set.
NG
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no ploblem, replace MAP5601M.
Yes
Has the sound of the Digital broadcasting output?
No
Check the FFC and cables between the MAIN Assy and IO_AUDIO Assy. Does not sound output even if replace them?
Yes
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
No
Is a I2S signal input to IC8201? (pins 100 to 102)
49 50 51
No
Is a signal output from IC6001 of the MAIN Assy?
No
Repare the DTB block.
Yes
Check around IC6001 and repair the failure points.
Yes
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Yes
Has the sound of the Analog RCA and PC inputs output?
No
Is a signal input to IC8201? (pins 24 to 27, 32 to 37)
43 44
No
Check between input terminal and IC8201 and repair the failure points.
Yes
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Yes
Has the sound of the side input output?
No
Check the cables between CN8601 and CN7505, and check around the pin jack.
NG
Replace the cables.
OK
Is a signal input to IC8201? (pins 30, 31)
43 44
No
Check between IC8201 and CN7505 and repair the failure points.
Yes
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no ploblem replace the MAIN Assy.

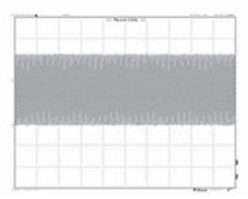
Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

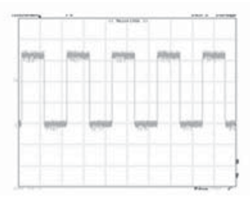
㊽ IC4901 - pin 78, IC8201 - pin 4
V: 1 V/div H: 1 µS/div



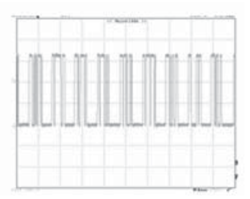
㊾ IC8201 - pin 100
V: 1 V/div H: 10 µS/div



㊿ IC8201 - pin 101
V: 1 V/div H: 10 µS/div

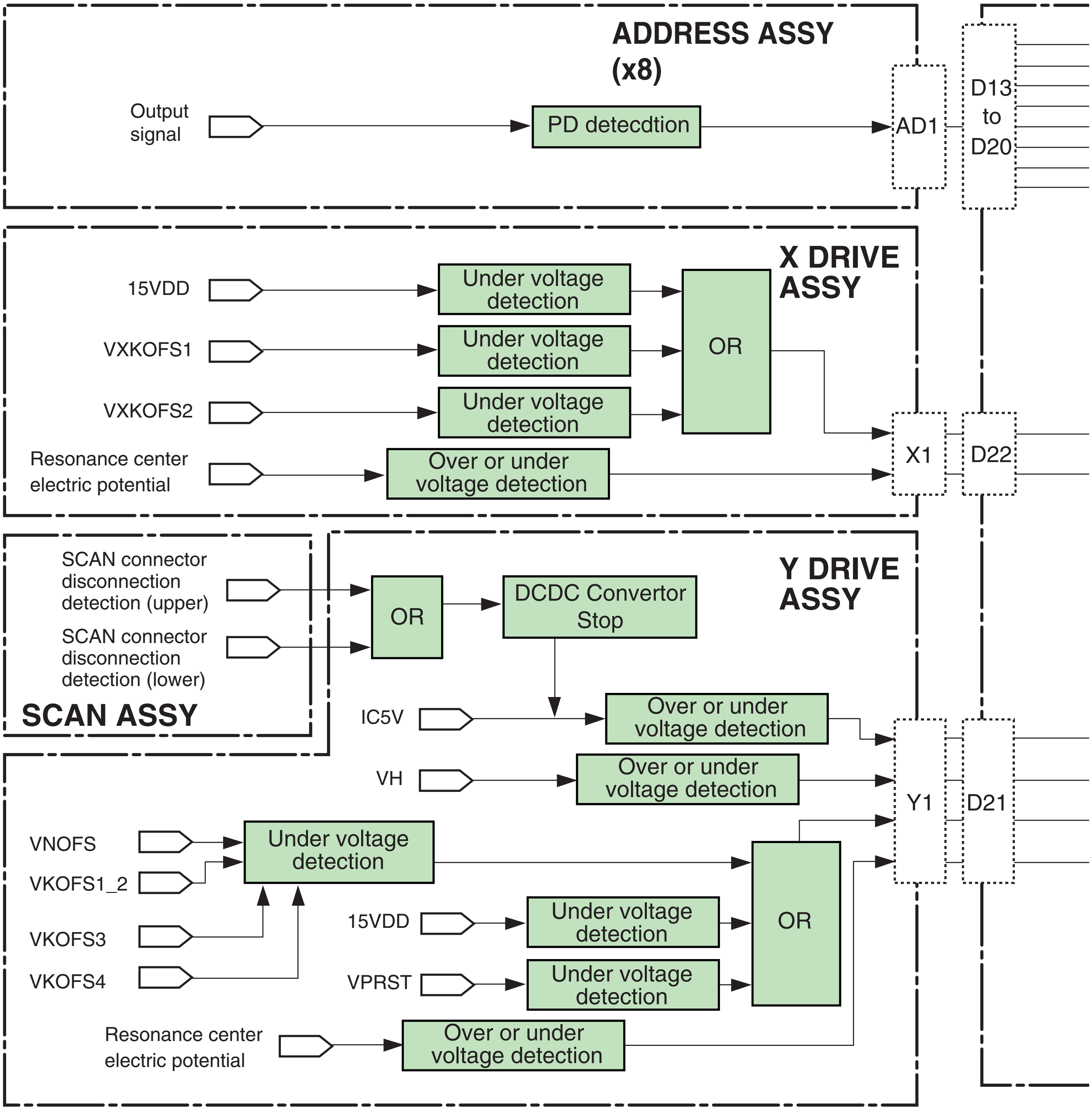


(51) IC8201 - pin 102
V: 1 V/div H: 10 µS/div

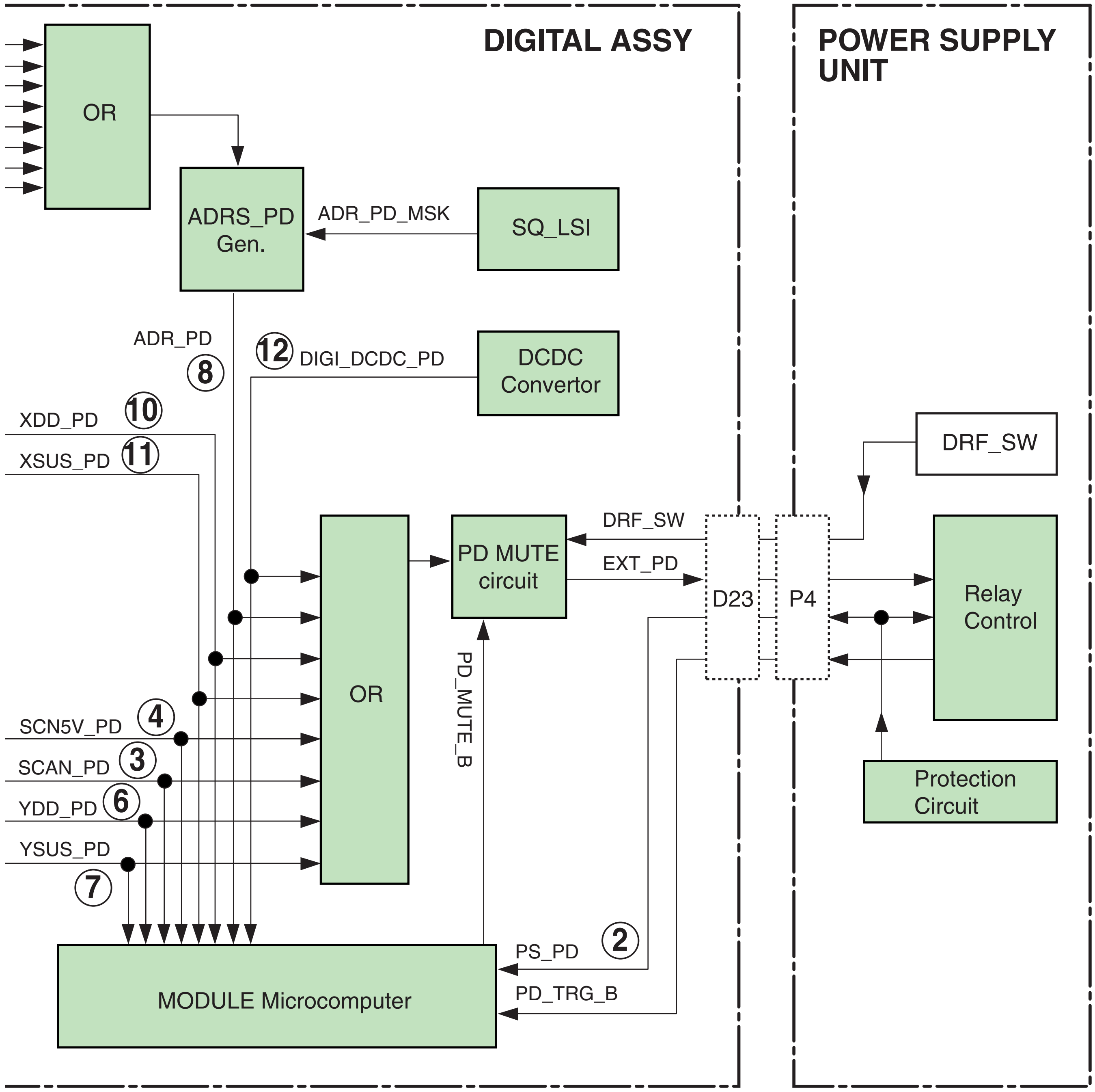


5.3 DIAGNOSIS OF PD (POWER-DOWN)

[1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL


ADDRESS ASSY
(x8)
Output signal
PD detecdtion
AD1
D13 to D20
X DRIVE ASSY
15VDD
VXKOFS1
VXKOFS2
Resonance center electric potential
Under voltage detection
Under voltage detection
Under voltage detection
OR
Over or under voltage detection
X1
D22
SCAN connector disconnection detection (upper)
SCAN connector disconnection detection (lower)
SCAN ASSY
OR
DCDC Convertor Stop
Y DRIVE ASSY
IC5V
Over or under voltage detection
VH
Over or under voltage detection
Y1
D21
VNOFS
VKOFS1_2
VKOFS3
VKOFS4
Under voltage detection
15VDD
Under voltage detection
VPRST
Under voltage detection
OR
Resonance center electric potential
Over or under voltage detection

Note:
The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.


DIGITAL ASSY
POWER SUPPLY UNIT
OR
ADRS_PD Gen.
ADR_PD_MSK
SQ_LSI
ADR_PD
⑧
⑫
DIGI_DCDC_PD
DCDC Convertor
XDD_PD
⑩
XSUS_PD
⑪
DRF_SW
DRF_SW
EXT_PD
PD MUTE circuit
OR
D23
P4
Relay Control
PD_MUTE_B
SCN5V_PD
④
SCAN_PD
③
YDD_PD
⑥
YSUS_PD
⑦
Protection Circuit
PS_PD
②
PD_TRG_B
MODULE Microcomputer

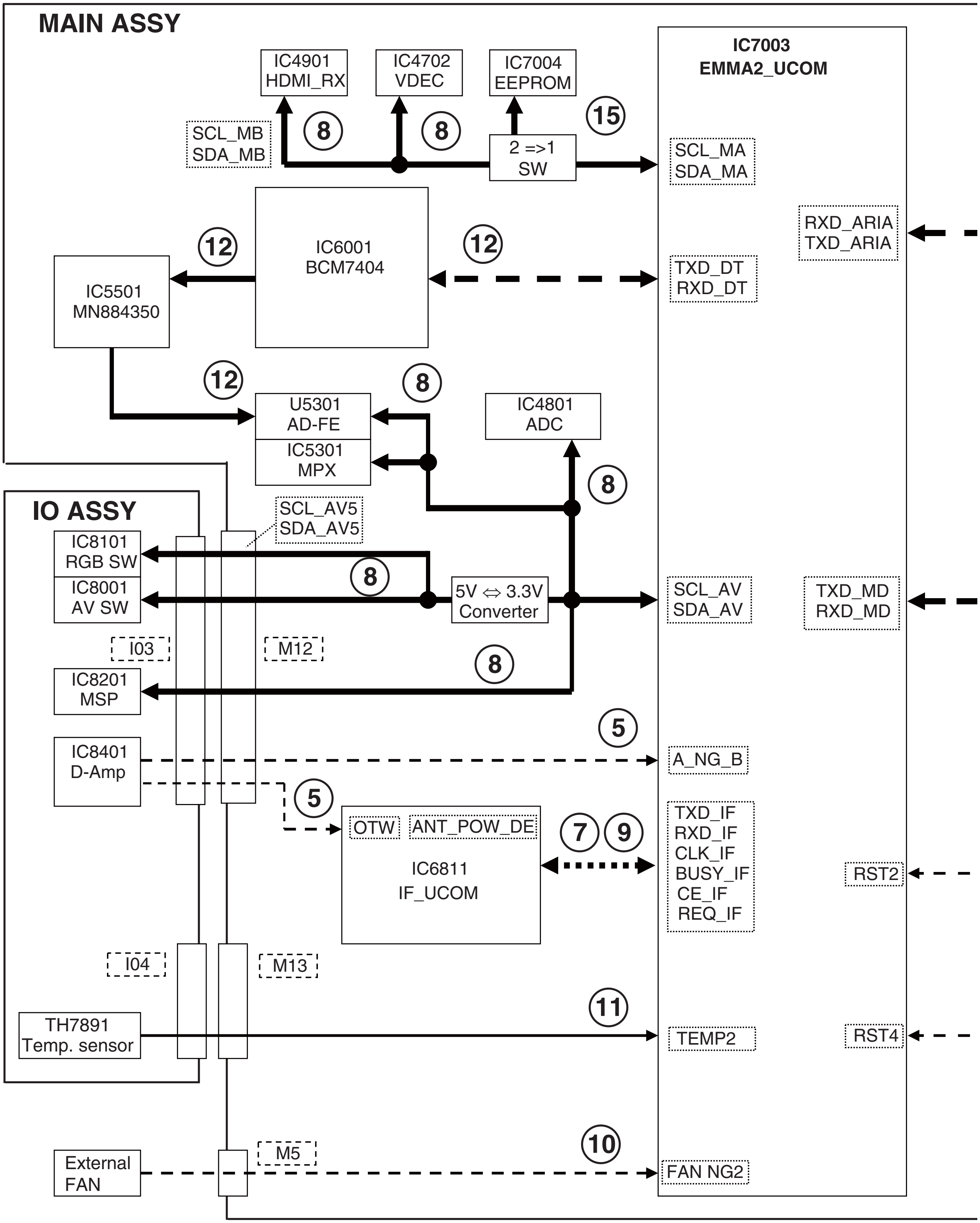
[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint	
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit		
			Connector disconnection	Connector [P14][P15] (60”only)	
		X DRIVE Assy	VSUS under voltage protection	X SUS block	
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block	
		ADDRESS Assy	Connector disconnection	Connector [AD1]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
3	SCAN	SCAN Assy	VH over or under voltage protection	SCAN IC	
		X DRIVE Assy		X SUS block	
		Y DRIVE Assy		Y SUS block	
				VH DC/DC	
				OFFSET block	
			Connector disconnection	Connector [Y1][Y2]	
		DIGITAL Assy	Connector disconnection	Connector [D21]	
4	SCN5V	SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2][SD1]	
			IC5V over or under voltage protection	SCAN IC	
		Y DRIVE Assy		IC5V DC/DC	
6	Y-DCDC	Y DRIVE Assy	VNOFS under voltage protection	Y MSK block	
				NOFS block	
				VNOFS DC/DC	
			VYPRST under voltage protection	VPRST regulaotr	
				PR-U block	
			15VDD under voltage protection	15V DC/DC	
				SOFT-G block	
			VKOFS1,2 under voltage protection	Y MSK block	
				KNOFS2 block	
				VYKOFS1, 2 regulaotr	
			VKOFS3 under voltage protection	Y MSK block	
				VYKOFS3 regulaotr	
			VKOFS4 under voltage protection	Y MSK block	
				KNOFS4 block	
				VYKOFS4 regulaotr	
7	Y-SUS	Y DRIVE Assy	Over or under voltage protection of the center electric potential	Y resonance block	
		DIGITAL Assy	SQ_LSI does not operate	SEQ_LSI (Sync input, output waveform)	
8	ADRS	ADDRESS Assy	VADR under voltage protection	Address resonance block	
				TCP	
			Connector disconnection	Connector [AD1][AD2]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
		Y DRIVE Assy	Connector disconnection	Connector [Y2][Y5][Y6]	
		X DRIVE Assy	Connector disconnection	Connector [X2][X3][X4]	
		POWER SUPPLY Unit	Connector disconnection	Connector [P1][P2]	
10	X-DCDC	X DRIVE Assy	Connector disconnection	Connector [X2]	
			15VDD under voltage protection	X SUS block	
				15V DC/DC	
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr	
				X OFFSET block	
			VXKOFS2 under voltage protection	VXKOFS2 regulaotr	
				X OFFSET block	
11	X-SUS	X DRIVE Assy	Over or under voltage protection of the center electric potential	X resonance block	
12	D-DCDC	DIGITAL Assy	3.3V,2.5V,1.1V Over voltage/under voltage/overcurrent protection	DC/DC controlo IC	
				DC/DC block	
15	UNKNOW	POWER SUPPLY Unit	Connector disconnection	Connector [P4]	
		DIGITAL Assy	Connector disconnection	Connector [D23]	
			ModuleUcom can not detection	Each PD line of ModuleUcom	

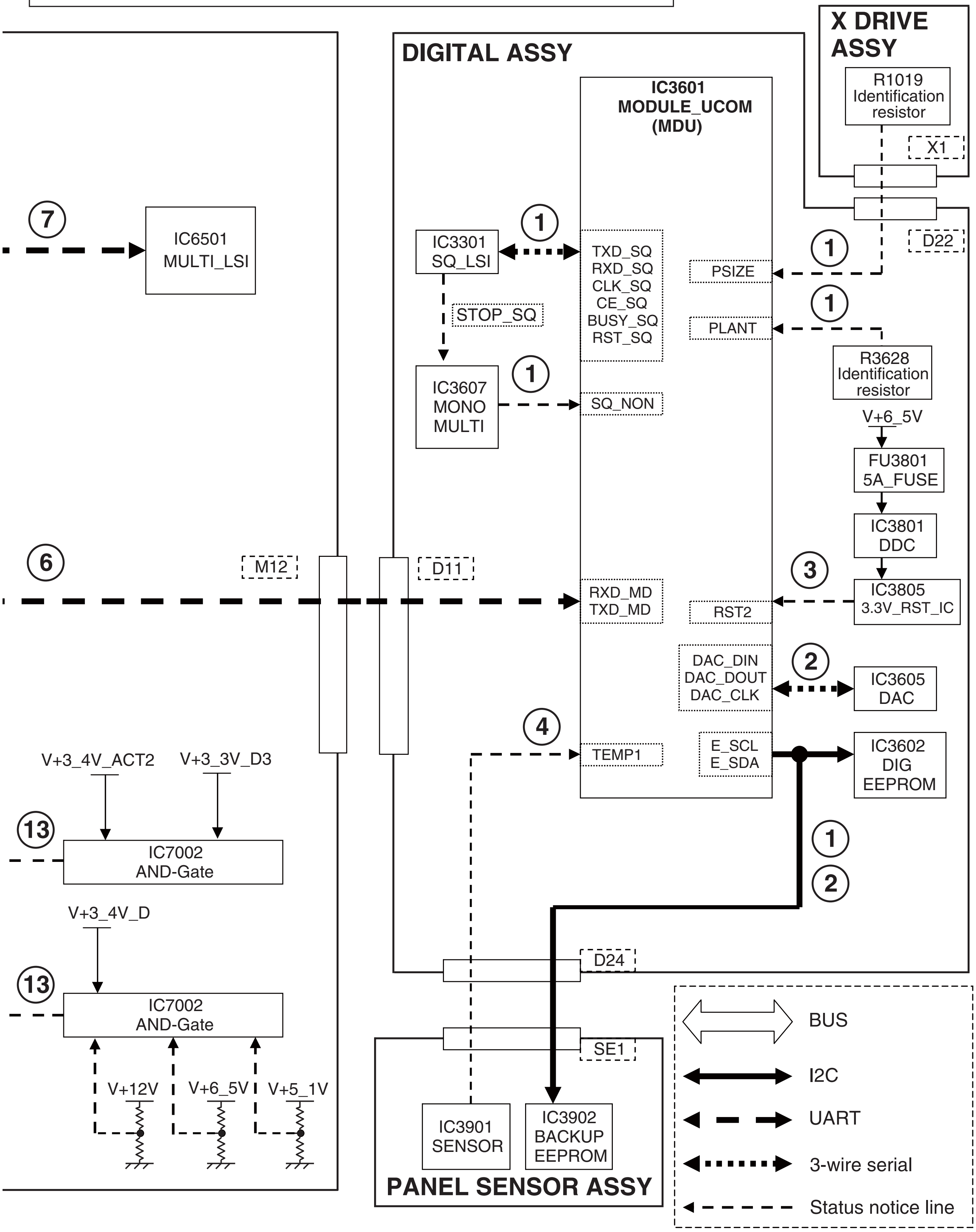
Possible Defective Part	Remarks
	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts.
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel.
	Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881 R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOW" except above-mentioned PD detection condition.

5.4 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL


MAIN ASSY
IC4901
HDMI_RX
IC4702
VDEC
IC7004
EEPROM
IC7003
EMMA2_UCOM
SCL_MB
SDA_MB
8
8
15
2 =>1
SW
SCL_MA
SDA_MA
RXD_ARIA
TXD_ARIA
12
IC6001
BCM7404
12
IC5501
MN884350
TXD_DT
RXD_DT
12
8
U5301
AD-FE
IC5301
MPX
IC4801
ADC
8
IO ASSY
SCL_AV5
SDA_AV5
IC8101
RGB SW
IC8001
AV SW
8
5V ⇔ 3.3V
Converter
SCL_AV
SDA_AV
TXD_MD
RXD_MD
I03
M12
8
IC8201
MSP
5
IC8401
D-Amp
A_NG_B
5
OTW
ANT_POW_DE
7
9
TXD_IF
RXD_IF
CLK_IF
BUSY_IF
CE_IF
REQ_IF
IC6811
IF_UCOM
RST2
I04
M13
11
TH7891
Temp. sensor
TEMP2
RST4
M5
10
External
FAN
FAN NG2

Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.


DIGITAL ASSY
X DRIVE ASSY
R1019 Identification resistor
X1
D22
IC3601 MODULE_UCOM (MDU)
⑦
IC6501 MULTI_LSI
IC3301 SQ_LSI
①
TXD_SQ
RXD_SQ
CLK_SQ
CE_SQ
BUSY_SQ
RST_SQ
STOP_SQ
IC3607 MONO MULTI
①
SQ_NON
PSIZE
①
PLANT
①
R3628 Identification resistor
V+6_5V
FU3801 5A_FUSE
IC3801 DDC
⑥
M12
D11
RXD_MD
TXD_MD
RST2
③
IC3805 3.3V_RST_IC
DAC_DIN
DAC_DOUT
DAC_CLK
②
IC3605 DAC
④
TEMP1
E_SCL
E_SDA
IC3602 DIG EEPROM
①
②
V+3_4V_ACT2
V+3_3V_D3
⑬
IC7002 AND-Gate
V+3_4V_D
⑬
IC7002 AND-Gate
V+12V
V+6_5V
V+5_1V
D24
SE1
IC3901 SENSOR
IC3902 BACKUP EEPROM
PANEL SENSOR ASSY
BUS
I2C
UART
3-wire serial
Status notice line

[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	–	Abnormality in RST2 power decrease	–	RST2	–	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	Orange 1	Short-circuiting of the speakers Overcurrent detection D-AMP temperature abnormality	–	AUDIO	AUDIO	
	Orange 2				OTW	
Blue 6	–	Failure in communication with the module microcomputer	–	MODULE	–	
Blue 7	–	Failure in IF microcomputer 3-wire serial communication	IF microcomputer	MA-3L	IF	
	Orange 2		MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
	Orange 11		US-MSP		US-MSP	
Blue 9	–	Failure in communication with the main microcomputer	–	MAIN	–	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	–	High temperature of the unit	–	TEMP2	–	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
	Orange 2		DTV communication error		RETRY	
	Orange 3		DEVICE ERR		DEVICE	
	Orange 7		Tuner 1		DE-FE	
	Orange 18		Application		DTVAPP	
	Orange 19		DEMOD		DEMOD	
Blue 13	Orange 1	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	
	Orange 2		POWER SUPPLY		RELAY	
Blue 15	–	Main EEPROM	Main EEPROM communication error	MA-EEP	–	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed.
The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6_5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
D_AMP	IC8401	Check the temperature that is 125 °C or less.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDMI_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between US_MSP and MAIN	IC5301,IC7003	Check the communication lines (SCL_AV/SDA_AV).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Communication line between BCM7404 and MAIN	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Periphery of BCM7404	IC6001	
Front-end block	IC6001,U5301	Check the BCM7404 and its periphery device.
DTV application	IC6001	
DEMOD	IC6001,IC5501	Check the communication line between BCM7404 and DEMOD.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communcation lines (SCL_EP/SDA_EP)

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 4 to 7 signal is not correct.	The color setting for INPUT 4 to 7 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 4 to 7 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 4 to 5 is not output. No HDMI signal is input.	The audio setting for INPUT 4 to 5 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 4 to 7 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	The component video cable is connected to the same input function as for the S video (even if no signal is input to the component video connector, merely having something plugged in to the connector will result in judgment that a signal is being fed in and the component video connector takes priority). (Priority of connectors: component video > S video > composite video)
The video signal to the composite video connector is not displayed.	The S Video or component video cable is connected to the same input function as for the composite video. (Priority of connectors: component video > S video > composite video)

SUPPLEMENT: On the video setting for HDMI
There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

[2] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.
* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.
- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.
- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that let to activation of the protection function return to normal.

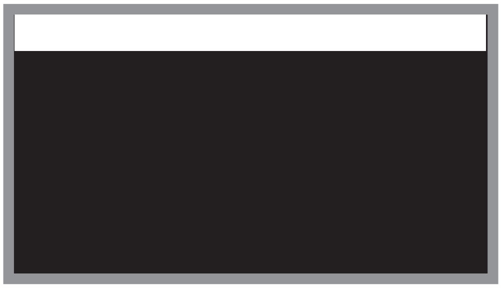


Fig. 2: Detection example: SCAN IC protection

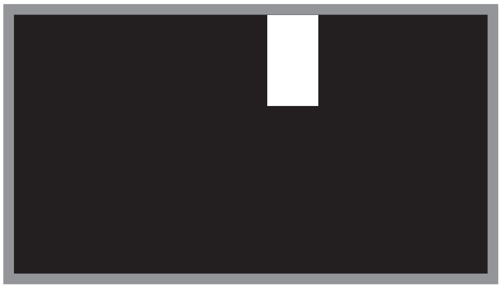


Fig. 3: Detection example: Protection against panel cracking

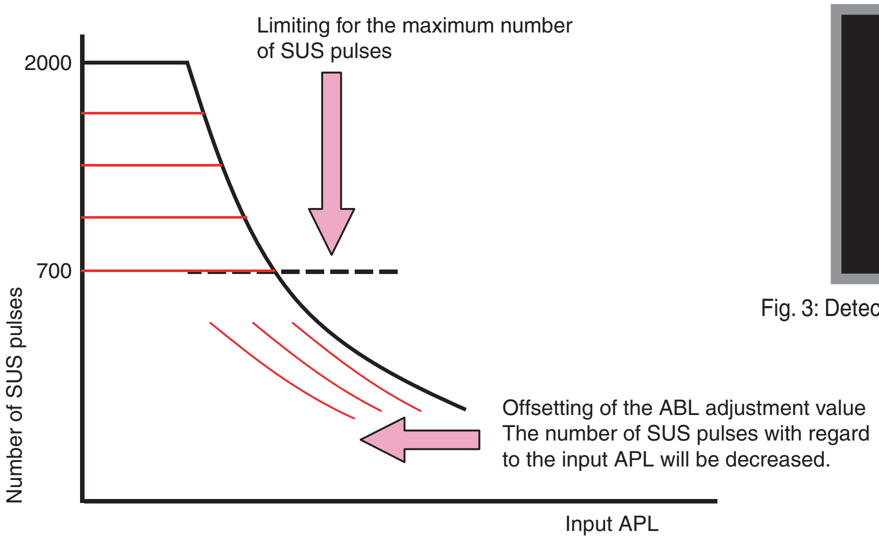


Fig. 1: Relationship between input APL and number of SUS pulses

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

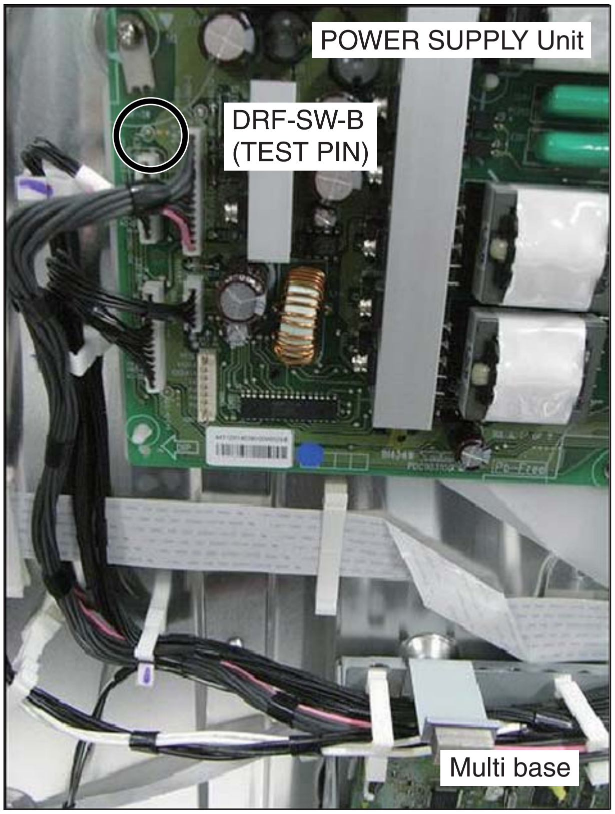
Function:
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

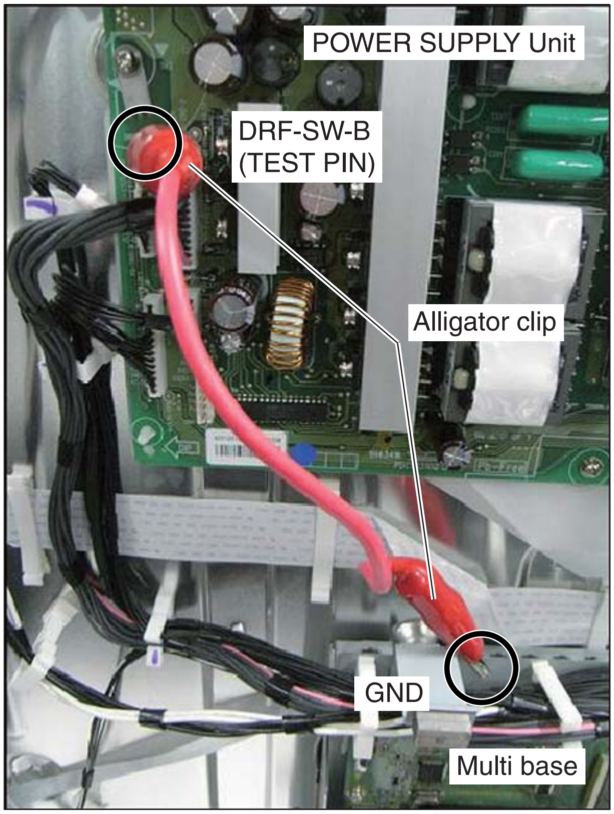
Method:
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

Supplemental explanation:
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



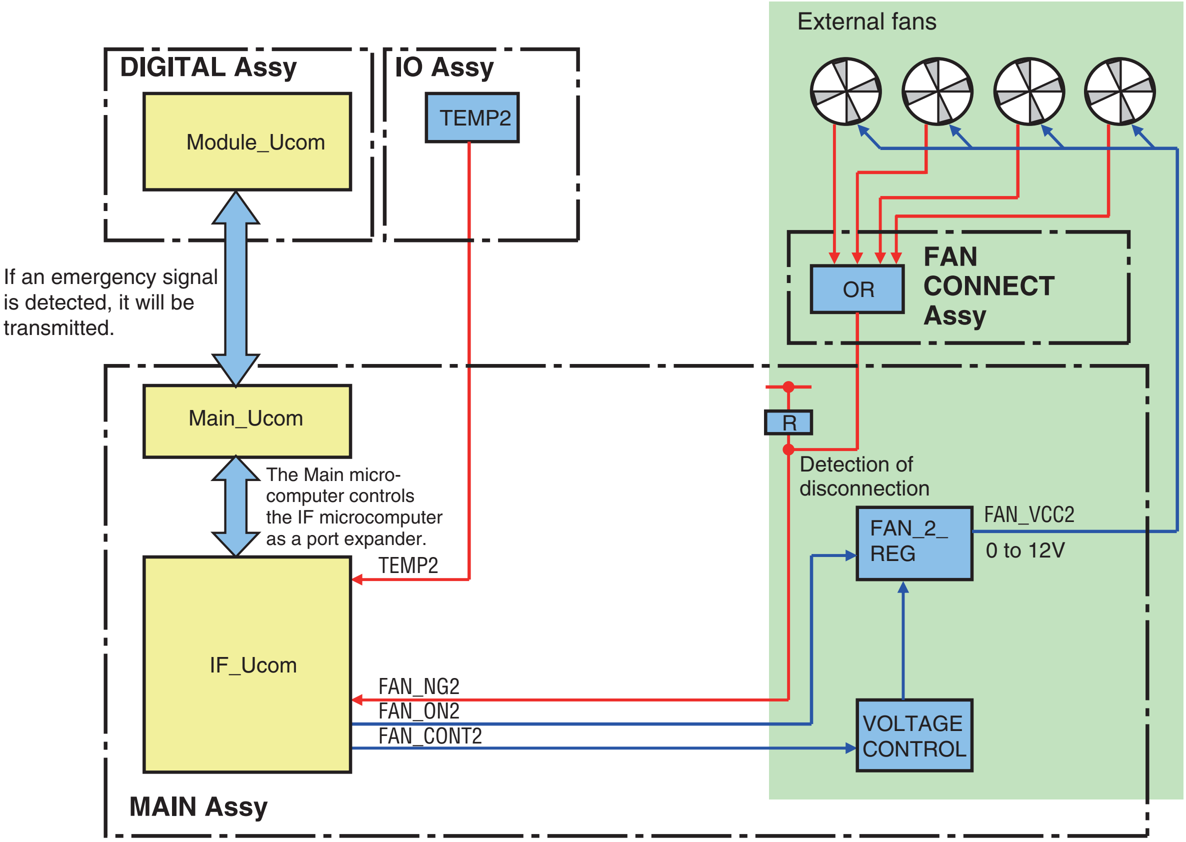
When the panel drive-power is OFF



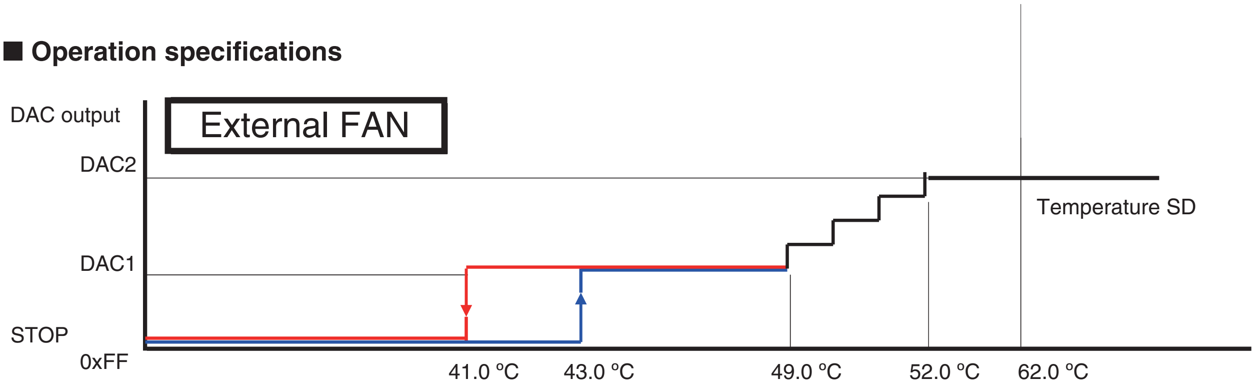
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The external fans cool down the whole unit.


External fans
DIGITAL Assy
Module_Ucom
IO Assy
TEMP2
If an emergency signal is detected, it will be transmitted.
FAN CONNECT Assy
OR
Main_Ucom
R
Detection of disconnection
The Main micro-computer controls the IF microcomputer as a port expander.
TEMP2
FAN_2_ REG
FAN_VCC2
0 to 12V
IF_Ucom
FAN_NG2
FAN_ON2
FAN_CONT2
VOLTAGE CONTROL
MAIN Assy

■ Operation specifications



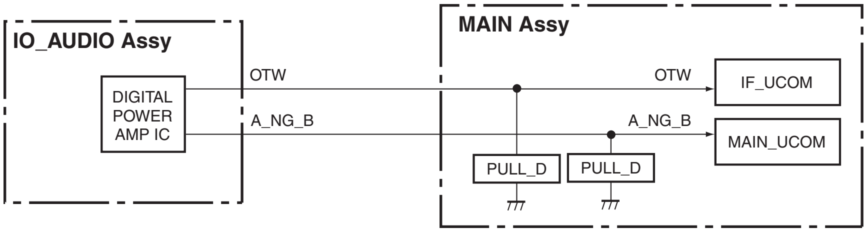
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for external FAN decreases, rotation speed of FAN rises.

[3] PROCESSING IN ABNORMALITY

Speaker short-circuit

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 10 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 120 mS * 3 times		

● Operation specifications of the main CPU

(1) Establish the short-circuit of the speaker by the main CPU

- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

(2) Display conditions

When the panel is on: A warning indication is displayed immediately.

When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

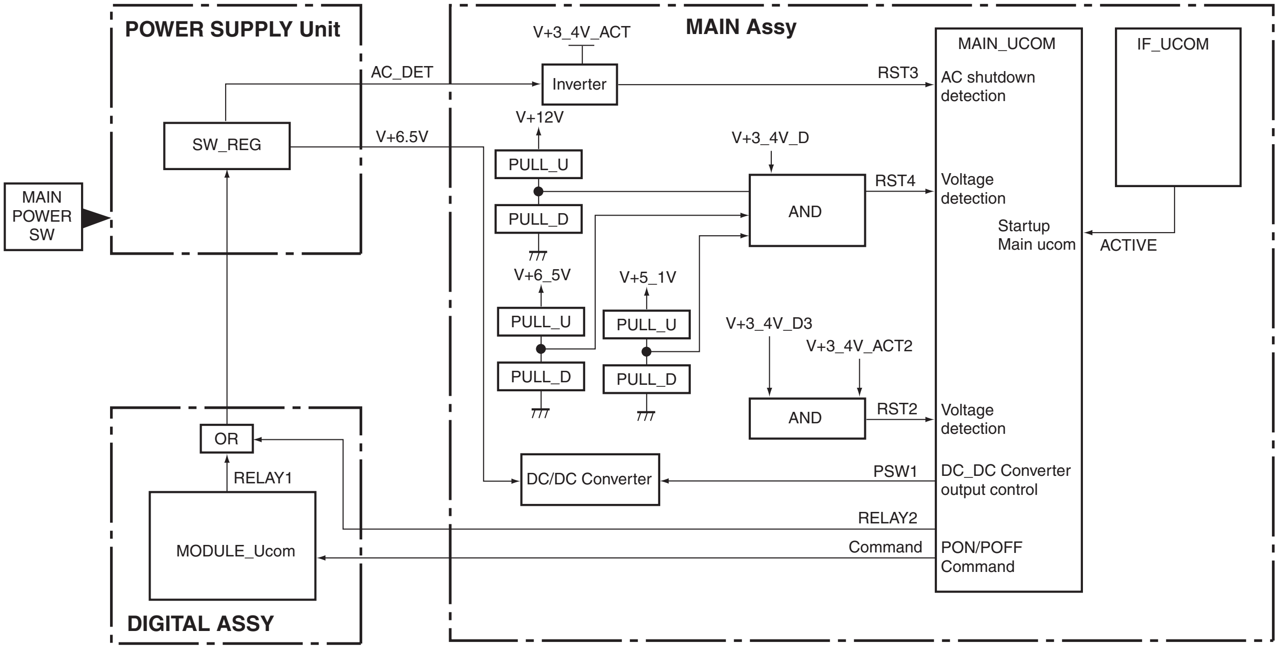
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply and DC-DC converter

● Circuit configuration

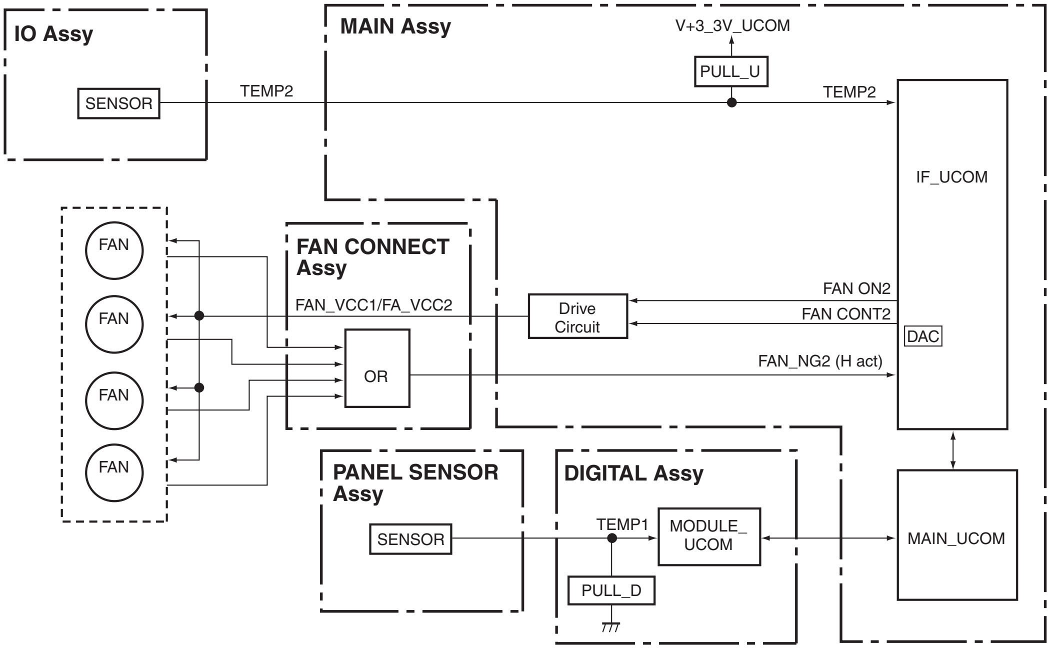

POWER SUPPLY Unit
MAIN Assy
MAIN POWER SW
SW_REG
AC_DET
V+6.5V
V+3_4V_ACT
Inverter
RST3
MAIN_UCOM
AC shutdown detection
IF_UCOM
V+12V
PULL_U
PULL_D
V+3_4V_D
AND
RST4
Voltage detection
Startup Main ucom
ACTIVE
V+6_5V
V+5_1V
PULL_U
PULL_U
PULL_D
PULL_D
V+3_4V_D3
V+3_4V_ACT2
AND
RST2
Voltage detection
OR
RELAY1
DC/DC Converter
PSW1
DC_DC Converter output control
RELAY2
MODULE_Ucom
Command
PON/POFF Command
DIGITAL ASSY

● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	• Panel screen ON (RST4 = H and PSW1 = H) • While awaiting restoration of RST2 (RST2 = L)	Shutdown occurs immediately Blue LED flashes 13 times
RST3	AC power	AC_OFF when the signal is "H."	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times

Fan and temperature sensor

● Circuit configuration



IO Assy
SENSOR
TEMP2
MAIN Assy
V+3_3V_UCOM
PULL_U
TEMP2
IF_UCOM
FAN
FAN
FAN
FAN
FAN CONNECT Assy
FAN_VCC1/FA_VCC2
Drive Circuit
FAN ON2
FAN CONT2
DAC
OR
FAN_NG2 (H act)
PANEL SENSOR Assy
SENSOR
DIGITAL Assy
TEMP1
MODULE_ UCOM
PULL_D
MAIN_UCOM

● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S ∗ 3 times	RST2 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times
TEMP1	Panel temperature is high	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS ∗ 5 times (average)	Digital video RST2 = H	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low			Shutdown occurs after waiting for 3 sec. Blue LED flashes 4 times

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

5.8 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting.
See "5.7 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		MOD	●	
AMT	S00	Audio mute OFF		●			
	S01	Audio mute ON		●			
AP0	S**	ADDRESS L1, L2 setting	●		MOD	●	Note 1
AP1	S**	ADDRESS L3, L4 setting	●		MOD	●	Note 1
AP2	S**	ADDRESS U1, U2 setting	●		MOD	●	Note 1
AP3	S**	ADDRESS U3, U4 setting	●		MOD	●	Note 1
APN	***	1V average pulse number setting	●		MOD	●	
B							
BCP		Copying the backup data in the EEPROM	●		MOD	●	
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
C							
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CBU		Clearing backup data of EEPROM	●		MOD	●	
CHM		Clearing data of the hour meter	●	●	MOD	●	
CHR		Clearing data of the hour meter of MTB/MR side		●			Clear the hour meter of screen display of MAIN NG
CMT		Clearing data of the maximum temperature	●		MOD	●	
CNG		Clearing shutdown history of MTB/MR side		●			
CPC		Clearing power-on count data	●		MOD	●	
CPD		Clearing power-down histrory	●		MOD	●	
CPM		Clearing data of the pulse meter	●		MOD	●	
CSD		Clearing shutdown history of Panel side	●		MOD	●	
CSF	S00	Color sensor function OFF	●				
	S01	Color sensor function ON	●				
CSM	S01	Color space mode 1: Pioneer original	●				
	S02	Color space mode 2: EBU standard conformity	●				
CSB	***	Blue coefficient of color sensor	●		MOD	●	
CSG	***	Green coefficient of color sensor	●		MOD	●	
CSR	***	Red coefficient of color sensor	●		MOD	●	
CTP	S00	Color temperature switch OFF	●				
	S01	Color temperature switch LOW setting	●				
	S02	Color temperature switch MID LOW setting	●				
	S03	Color temperature switch MID setting	●				
	S04	Color temperature switch MID HIGH setting	●				
	S05	Color temperature switch HIGH setting	●				
D							
DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
	S01	Dither/L dither ON & noise ON	●			●	
	S02	Dither/L dither OFF & noise ON	●			●	
	S03	Dither/L dither ON & noise OFF	●			●	
DRV	S00	Panel drive-power OFF	●				
	S01	Panel drive-power ON	●				
DW*		To subtract * to the adjustment value (* = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)		●			

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●		MOD	●	
FAN		Factory mode OFF	●	●		●	
FAY		Factory mode ON	●	●			
FBM	S00	OFF (In-phase SUS drive prohibition)	●		MOD	●	Note 1
	S01	MODE1 (In-phase SUS drive permission)	●		MOD	●	Note 1
FST	S21	Set each memory setting of MTB/MR side to the shipment state.		●		●	
I							
INA	***	Switching the terrestrial analog signal, direct tuning (***: channel number)		●	MAIN		
		Switching the terrestrial analog signal		●	MAIN		
INC	***	Switching the terrestrial digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the terrestrial digital signal		●	MAIN		
INH	***	Switching the Home Media Gallery		●			
INP	S01	Input switch: INPUT 1		●	MAIN		
	S02	Input switch: INPUT 2		●	MAIN		
	S03	Input switch: INPUT 3		●	MAIN		
	S04	Input switch: INPUT 4		●	MAIN		
	S05	Input switch: INPUT 5		●	MAIN		
	S06	Input switch: INPUT 6		●	MAIN		
	S07	Input switch: INPUT 7		●	MAIN		
	S08	Input switch: INPUT 8 (PC)		●	MAIN		
M							
MIR	S00	Mirror display mode: OFF	●				
	S01	Mirror display mode: Right and left inversion	●				
	S02	Mirror display mode: Top and bottom inversion	●				
	S03	Mirror display mode: Top and bottom and right and left inversion	●				
MKC	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1) M	●		MOD	●	
	S02	H ramp (slant 4) M	●		MOD	●	
	S03	Slanting ramp M	●		MOD	●	
	S04	30 for aging	●		MOD	●	
	S05	05 for aging	●		MOD	●	
	S06	Erasing afterimage 1	●		MOD	●	
	S07	Erasing afterimage 2	●		MOD	●	
	S08	White (change in luminance level)	●		MOD	●	
	S09	PEAK detection raster	●		MOD	●	
	S10	Address lack check	●		MOD	●	
	S11	Green vertical line scroll	●		MOD	●	
	S12	Green horizontal line scroll	●		MOD	●	
	S13	Vertical ramp vertical scroll (white)	●		MOD	●	
	S14	Vertical ramp vertical scroll (green)	●		MOD	●	
	S15	Horizontal ramp horizontal scroll (white)	●		MOD	●	
	S16	Horizontal ramp horizontal scroll (green)	●		MOD	●	
	S17	Cross hatch + window	●		MOD	●	
MKS	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1)	●		MOD	●	
	S02	H ramp (slant 4)	●		MOD	●	

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S03	V ramp (slant 1)	●		MOD	●	
	S04	Slanting ramp	●		MOD	●	
	S05	Window (Hi= 870, Lo= 102)	●		MOD	●	
	S06	Window (Hi= 1023, Lo= 102)	●		MOD	●	
	S07	Window (Hi= 1023, Lo=000)	●		MOD	●	
	S08	Window (Hi= 1023) 4 %	●		MOD	●	
	S09	Window (Hi= 1023) 1.25 %	●		MOD	●	
	S10	Window (1/7 LINE)	●		MOD	●	
	S11	STRIPE (MGT/GRN)	●		MOD	●	
	S12	STRIPE (GRN/MGT)	●		MOD	●	
	S13	B & W, checker (1 line)	●		MOD	●	
	S14	B & W, checker (2 lines)	●		MOD	●	
	S15	B & W, checker (4 lines)	●		MOD	●	
	S16	B & W, checker (8 lines)	●		MOD	●	
	S17	COLOR BAR	●		MOD	●	
	S18	Slanting lines	●		MOD	●	
	S19	Red & black, checker (1 line)	●		MOD	●	
	S20	Red & black, checker (2 lines)	●		MOD	●	
	S21	Red & black, checker (4 lines)	●		MOD	●	
	S22	Red & black, checker (8 lines)	●		MOD	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		MOD	●	
	S24	Black raster (max SUS pulses)	●		MOD	●	Note 5
	S25	1 for perfect linear	●		MOD	●	
	S26	2 for perfect linear	●		MOD	●	
	S27	3 for perfect linear	●		MOD	●	
	S28	4 for perfect linear	●		MOD	●	
	S29	RGB checker 1	●		MOD	●	
	S30	RGB checker 2	●		MOD	●	
	S31	Window RED (RED=1023)	●		MOD	●	
	S32	Window GREEN (GREEN=1023)	●		MOD	●	
	S33	Window BLUE (BLUE=1023)	●		MOD	●	
	S34	Even line horizontal stripes	●		MOD	●	
	S35	Odd line horizontal stripes	●		MOD	●	
	S36	Afterimage check 1	●		MOD	●	
	S37	Afterimage check 2	●		MOD	●	
	S38	Afterimage check 3	●		MOD	●	
	S39	Afterimage check 4	●		MOD	●	
	S40	Red single-color slanting ramp	●		MOD	●	
	S41	GREEN single-color slanting ramp	●		MOD	●	
	S42	BLUE single-color slanting ramp	●		MOD	●	
	S43	For panel light check 1	●		MOD	●	
	S44	For panel light check 2	●		MOD	●	
	S45	5 for perfect linear	●		MOD	●	
	S46	6 for perfect linear	●		MOD	●	
	S47	7 for perfect linear	●		MOD	●	
	S48	8 for perfect linear	●		MOD	●	
	S49	Mask for ABL adjustment	●		MOD	●	

Note 5: Peak luminance detection function (PKD) modification is impossible.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKR	S00	MASK OFF	●		MOD		
	S01	Raster - White	●		MOD	●	
	S02	Raster - Red	●		MOD	●	
	S03	Raster - Green	●		MOD	●	
	S04	Raster - Blue	●		MOD	●	
	S05	Raster - Black	●		MOD	●	
	S06	Raster - Cyan	●		MOD	●	
	S07	Raster - Magenta	●		MOD	●	
	S08	Raster - Yellow	●		MOD	●	
	S09	Raster - Light purple	●		MOD	●	
	S10	Raster - Pink	●		MOD	●	
	S11	Raster - Yellow egg color	●		MOD	●	
	S12	Raster - Light blue	●		MOD	●	
	S13	Raster - Beige	●		MOD	●	
	S14	Raster - Red 996+	●		MOD	●	
	S15	Raster - Red 1023+	●		MOD	●	
	S16	Raster - Green 1023+	●		MOD	●	
	S17	Raster - Blue 1023+	●		MOD	●	
	S18	Raster - Red 626+	●		MOD	●	
	S19	Raster - Green 718+	●		MOD	●	
	S20	Raster - Blue 626+	●		MOD	●	
	S21	Raster - Gray 120	●		MOD	●	
	S22	Raster - Cyan 169	●		MOD	●	
	S23	Raster - Magenta 169	●		MOD	●	
	S24	Raster - Yellow 169	●		MOD	●	
	S25	Raster - Gray 307	●		MOD	●	
MSE	S00	Product form : one body/monitor model	●		MOD	●	Note 1
	S01	Product form : System model	●		MOD	●	Note 1
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left down)		●			
	S05	PinP (Left up)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●				
	S01	Negative positive inversion: ON	●				
O							
OSD	S00	OSD display setting: ON		●	MAIN		
	S01	OSD display setting: OFF		●	MAIN		
P							
PAV	S00	AV selection: FACTORY	●				
	S01	AV selection: STANDARD / PERFORMANCE	●				
	S02	AV selection: DYNAMIC	●				
	S03	AV selection: MOVIE	●				
	S04	AV selection: GAME	●				
	S05	AV selection: SPORT	●				
	S06	AV selection: PURE	●				
	S07	AV selection: USER	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PAV	S08	AV selection: isf-DAY	●				
	S09	AV selection: isf-NIGHT	●				
	S10	AV selection: OPTIMUM	●				
	S11	AV selection: isf-AUTO	●				
	S12	AV selection: Standard	●				
	S13	AV selection: Reserved (Australian standard)	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		MOD	●	
PBL	***	Panel white balance adjustment - Blue low light	●		MOD	●	
PBX	***	Panel Bx measuring value	●		MOD	●	
PBY	***	Panel By measuring value	●		MOD	●	
PCS	S00	Normal operation	●				
	S01	Catalog specification operation	●				
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PES	S00	For general-purpose commonness: Standard	●				
	S01	For general-purpose commonness: Energy saving 1	●				
	S02	For general-purpose commonness: Energy saving 2	●				
	S10	For general-purpose Japan standard: Standard	●				
	S11	For general-purpose Japan standard: Energy saving 1	●				
	S12	For general-purpose Japan standard: Energy saving 2	●				
PFL	S**	Center luminance correction	●				
	S00	Peripheral luminance correction: OFF	●				
	S01	Peripheral luminance correction: ON fixed	●				
	S02	Peripheral luminance correction: APL interlocked ON	●				
PFN		Factory mode at panel side: OFF	●			●	
PFS		Setup the panel side to shipment	●		MOD	●	
PFY		Factory mode at panel side: ON	●				Note 2
PGB	S00	Blue gamma setting: Straight	●				
	S01	Blue gamma setting: Fixed on 1.6	●				
	S02	Blue gamma setting: Fixed on 1.7	●				
	S03	Blue gamma setting: Fixed on 1.8	●				
	S04	Blue gamma setting: Fixed on 1.9	●				
	S05	Blue gamma setting: Fixed on 2.0	●				
	S06	Blue gamma setting: Fixed on 2.1	●				
	S07	Blue gamma setting: Fixed on 2.2	●				
	S08	Blue gamma setting: Fixed on 2.3	●				
	S09	Blue gamma setting: Fixed on 2.4	●				
	S10-31	Blue gamma setting: Customize	●				
PGG	S00	Green gamma setting: Straight	●				
	S01	Green gamma setting: Fixed on 1.6	●				
	S02	Green gamma setting: Fixed on 1.7	●				
	S03	Green gamma setting: Fixed on 1.8	●				
	S04	Green gamma setting: Fixed on 1.9	●				
	S05	Green gamma setting: Fixed on 2.0	●				
	S06	Green gamma setting: Fixed on 2.1	●				
	S07	Green gamma setting: Fixed on 2.2	●				
	S08	Green gamma setting: Fixed on 2.3	●				
	S09	Green gamma setting: Fixed on 2.4	●				
	S10-31	Green gamma setting: Customize	●				
PGH	***	Panel white balance adjustment - Green highlight	●		MOD	●	

Note 2: Mask setting and the picture quality setting of MTB are not changed.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGL	***	Panel white balance adjustment - Green low light	●		MOD	●	
PGX	***	Panel Gx measuring value	●		MOD	●	
PGY	***	Panel Gy measuring value	●		MOD	●	
PGR	S00	Red gamma setting: Straight	●				
	S01	Red gamma setting: Fixed on 1.6	●				
	S02	Red gamma setting: Fixed on 1.7	●				
	S03	Red gamma setting: Fixed on 1.8	●				
	S04	Red gamma setting: Fixed on 1.9	●				
	S05	Red gamma setting: Fixed on 2.0	●				
	S06	Red gamma setting: Fixed on 2.1	●				
	S07	Red gamma setting: Fixed on 2.2	●				
	S08	Red gamma setting: Fixed on 2.3	●				
	S09	Red gamma setting: Fixed on 2.4	●				
	S10-31	Redt gamma setting: Customize	●				
PKD	S00	Peak luminance detection: OFF	●			●	
	S01	Peak luminance detection: ON	●			●	
PKL	S00	No brightness limitation : 100 %	●				
	S01	Brightness limitation 1 : 87 %	●				
	S02	Brightness limitation 2 : 73 %	●				
	S03	Brightness limitation 3 : 60 %	●				
	S04	Brightness limitation 4 : 52 %	●				
	S05	Brightness limitation 5 : 40 %	●				
	S06	Brightness limitation 6 : 27 %	●				
	S07	Brightness limitation 7 : 13 %	●				
PMT	S00	Canceling panel muting	●				Note 3
	S01	Panel muting	●				
POF		Power OFF	●	●	MAIN		
PON		Power ON	●	●	MAIN		
PPT	S00	Panel protection function: OFF	●			●	
	S01	Panel protection function: ON	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		MOD	●	
PRL	***	Panel white balance adjustment - Red low light	●		MOD	●	
PRX	***	Panel Rx measuring value	●		MOD	●	
PRY	***	Panel Ry measuring value	●		MOD	●	
PUC	S00	Pure cinema: OFF		●	MAIN	●	
	S01	Pure cinema: Standard		●	MAIN	●	
	S02	Pure cinema: Advance		●	MAIN	●	
	S03	Pure cinema: Smooth		●	MAIN	●	
Q							
QAJ		Acquiring various adjustment values of the panel side	●				
QMT		Acquiring temperature of MTB/MR side and Fan speed		●			
QNG		Acquiring shutdown information of MTB/MR side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QPF		Acquiring characteristic / function setting values of the panel side	●				
QS1		Acquiring unit data, such as the software version	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				

Note 3: The mute is unable while displaying the internal mask.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Q							
QS3		Each information output for panel	●				
QS5		Each information output for panel (individual function)	●				
QSE		Acquiring unit data, such as the software version of MTB/MR side (specific destination)		●			
QSP		Acquiring sub-version of the microcomputer for panel	●				
QSD		Acquiring data on shutdown	●				
QSI		Acquiring data related with signals	●				
R							
R1K	***	First reset (wedge width)	●		MOD	●	
R2K	***	Second reset (wedge width)	●		MOD	●	
RBL	S00-07	BLUE setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RGL	S00-07	GREEN setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RLS	S00	Room light sensor operation : OFF	●				
	S01-05	Room light sensor operation : 1 to 5	●				
RRL	S00-07	RED setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
S							
SAT	***	Timing adjustment between the scan and address	●		MOD	●	
SCW	S00	Normal operation	●				
	S01	Draw the warning blue window (left side)	●				
	S02	Draw the warning red window (right side)	●				
SDF	S00	SRS DEFINITION: OFF		●			
	S01	SRS DEFINITION: DEFINITION1		●			
	S02	SRS DEFINITION: DEFINITION2		●			
	S03	SRS DEFINITION: DEFINITION3		●			
SDM	S00	Shutdown enabled	●				
	S01	Shutdown prohibited	●				
SFR	S01-08	Measures against AM radio noise - Pattern 1 to 8	●		MOD	●	Note 1
SKM	S00	STREAKING correction mode OFF	●		MOD	●	
	S01-08	STREAKING correction mode Setting mode 1 to 8	●		MOD	●	
SMC	S00	Smooth clear drive OFF	●			●	
	S01	Smooth clear drive ON	●			●	
SML	***	Adjustment of the side mask level		●	MAIN	●	
SN0	***	Setting of the serial No. 0 (panel)	●		MOD	●	
SN1	***	Setting of the serial No. 1 (panel)	●		MOD	●	
SN2	***	Setting of the serial No. 2 (panel)	●		MOD	●	
SN3	***	Setting of the serial No. 3 (panel)	●		MOD	●	
SN4	***	Setting of the serial No. 4 (panel)	●		MOD	●	
SQM	S01	VIDEO sequence setting	●				
	S02	PC sequence setting	●				
	S03	FILM sequence setting	●				
SRS	S00	SRS: OFF		●			
	S01	SRS: SRS1		●			
	S02	SRS: SRS2		●			
	S03	SRS: SRS3		●			
SSM	S00	SSCG OFF	●			●	
	S01	SSCG ON	●			●	
SWA	***	Estimated value of the illuminant color (absolute value)	●				
SWF	S00	Reflection of the estimated information of the illuminant color: OFF	●				
	S01	Reflection of the estimated information of the illuminant color: ON	●				
SWR	***	Estimated value of the illuminant color (relative value)	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SZM	S00	Setting the screen size to Dot by Dot		●	MAIN		
	S01	Setting the screen size to 4 :3		●	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i		●	MAIN		
	S03	Setting the screen size to ZOOM		●	MAIN		
	S04	Setting the screen size to CINEMA		●	MAIN		
	S05	Setting the screen size to WIDE or WIDE1		●	MAIN		
	S11	Setting the screen size to AUTO		●	MAIN		
	S12	Setting the screen size to WIDE1		●	MAIN		
T							
TBS	S00	TRUBASS: OFF		●			
	S01	TRUBASS: TRUBASS1		●			
	S02	TRUBASS: TRUBASS2		●			
	S03	TRUBASS: TRUBASS3		●			
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●		MOD	●	
UP*		To add * to the adjustment value (* = 0 to 9, add 10 with UP0 and set to maximum value with UPF)		●			
V							
V1F	***	Adjustment of the reference value of Vyknofs 1, 2 voltage	●		MOD	●	
V3F	***	Adjustment of the reference value of Vyknofs 3 voltage	●		MOD	●	
V4F	***	Adjustment of the reference value of Vyknofs 4 voltage	●		MOD	●	
VFQ	S02	Setting the frequency in Mask mode to VD-50 Hz	●		MOD	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		MOD	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		MOD	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz-1	●		MOD	●	
	S07	Setting the frequency in Mask mode to VD-75 Hz-2	●		MOD	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		MOD	●	
VOF	***	Adjustment of the reference value of Vysnofs voltage	●		MOD	●	
VOL	UP*, DW*, ***	To adjust the volume		●			Note 4
VRP	***	Adjustment of the reference value of Vyprst voltage	●		MOD	●	
VSU	***	Adjustment of the reference value of Vsus voltage	●		MOD	●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		MOD	●	
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		MOD	●	
VYF	***	Adjustment of the reference value of ∆ Vyknofs1, 2/3/4 voltage	●		MOD	●	
W							
WBI	S00	Panel WB standard output mode: OFF	●			●	
	S01	Panel WB standard output mode: ON	●			●	
X							
X1B	***	3SF and later-first XSUS (resonance up width)	●		MOD	●	
X3B	***	2SF-third XSUS (resonance up width)	●		MOD	●	
XSB	***	2SF-repeat XSUS (resonance up width)	●		MOD	●	

Note 4: Use this command by designating the adjustment value *** (=000 to 060).

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Y							
Y1K	***	1SF-YSUS-Tail (wedge width)	●		MOD	●	
Y1Z	***	1SF-YSUS-Tail (resonance down width)	●		MOD	●	
Y2B	***	2SF-second YSUS (resonance up width)	●		MOD	●	
Y2K	***	2SF-YSUS-Tail (wedge width)	●		MOD	●	
Y2Z	***	2SF-YSUS-Tail (resonance down width)	●		MOD	●	
YNK	***	3SF and later (SSF 2 pulses)-YSUS Tail (wedge width)	●		MOD	●	
YTK	***	3SF and later-YSUS Tail (wedge width)	●		MOD	●	
YTZ	***	3SF and later-YSUS Tail (resonance down width)	●		MOD	●	
YSB	***	2SF-repeat YSUS (resonance up width)	●		MOD	●	
Z							
ZME	***	Initializing the video EEPROM data of the MTB/MR side		●		●	

5.9 DETAILS OF EACH COMMANDS

[1] QS1 (PANEL STATUS)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 112 (DATA) + 2 (CS) = 117 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1
1	Resolution/Size	1 byte	F
2	Panel Generation	1 byte	9
3	Destination	1 byte	*
4	Grade	1 byte	*
5	Panel Product Form	1 byte	A
6	Boot version of Module microcomputer	3 byte	-01A
7	Program version of Module microcomputer	8 byte	-01A ‘ ’ ’ ’
8	Boot version of sequence processor	3 byte	-01Z
9	Program version of sequence processor	8 byte	-01Z ‘ ’ ’ ’
10	Panel information	8 byte	G9_50F_2
11	Derivative operation identification	1 byte	*
12	Reserved (panel section)	7 byte	*******
13	, (comma)	1 byte	,
14	MTB generation	1 byte	9
15	MTB destination	1 byte	A
16	MTB grade	1 byte	H
17	MTB product form	1 byte	B
18	Program version of IF microcomputer	8 byte	-01A
19	Boot version of IF microcomputer	4 byte	01A
20	Program version of Main microcomputer	8 byte	-01A
21	Boot version of Main microcomputer	4 byte	01A
22	Common version of ASIC	8 byte	-01A
23	Boot version of ASIC	8 byte	01A
24	PRS version of ASIC	8 byte	-01A
25	PIC version of ASIC	8 byte	-01A
26	Common version of the Digital Tuner	8 byte	-0A
27	Boot version of the Digital Tuner	4 byte	01A
CS	2 Byte	2 byte	4A

11: Derivative Operation Identification	
*	Standard model operation
1	Derivative model operation

14: MTB Generation	
9	G9

15: MTB Destination	
A	North America
C	China
E	Europe
G	General
J	Japan
U	Australia

16: MTB Grade	
H	Elite/One body Europe HD /System Europe HD/One body Australia
T	Regular/One body Europe SD
D	Derivative Model
*	No Grade (Japan/General/China)

17: MTB Product Form	
B	One body model
S	System model

1: Resolution/Size	
F	50-FHD (1920*1080)
G	60-FHD (1920*1080)

2: Panel Generation	
9	G9

3: Destination	
*	Commonness

4: Grade	
*	Commonness
Z	Evaluation

5: Panel Product Form	
A	One body/monitor model
S	System model

10: Panel Information (8 Byte)		
1 to 2nd byte	G9	Generation information
4 to 5th byte	50	50 inch
	60	60 inch
6th byte	F	FHD
8th byte	3	50 inch 2nd PLANT (Reserved)
	2	50 inch 2nd PLANT
	1	50 inch 1st PLANT
	‘	Others

‘ = space

[2] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

1: Power supply status	
P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag	
0	Adjustment completed
1	Adjustment not completed

4, 5: PD data	
0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data	
-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

9: SD data	
0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MDU-DEVICE)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)	
0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication	
0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function	
0	Normal operation
1	At detection of protection operation

[3] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	_ _ _._
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[4] QS5 (COLOR SENSOR DATA)

The command QS5 is for acquiring the color sensor information.

Command Format	Effective Operation Modes	Function	Remarks
[QS5]	Every Time	Output of status	Return data: 3 (ECO) + 45 (DATA) + 2 (CS) = 50 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS5
1	Color sensor data (Note)	1 byte	2
2	RED data of color sensor	4 byte	0425
3	GREEN data of color sensor	4 byte	2112
4	BLUE data of color sensor	4 byte	5000
5	Reserved	32 byte	** to **
CS	2 Byte	2 byte	94

Note: The color sensor data is output as the same data as QS2.

[5] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ’ ’ ’ ’
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ’ ’ ’ ’
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	********
CS	2 Byte	2 byte	A3

[6] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnofs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	Δ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	******
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure	
n	n: 1 to 8 (SUS frequency n)

[7] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Type of drive sequence (Note 1)	4 byte	60VS
2	ABL adjustment table	1 byte	1
3	Type of WB adjustment table (Note 1)	1 byte	1
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	R gamma setting	2 byte	31
12	G gamma setting	2 byte	10
13	B gamma setting	2 byte	10
14	Streaking correction	1 byte	1
15	Center luminance correction	1 byte	0
16	Reserved	1 byte	*
17	Interlocked with APL	1 byte	0
18	Transition of protective operations	1 byte	0
19	Reserved	2 byte	**
CS	2 Byte	2 byte	37

1: Type of Drive sequence	
50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table	
n	n: 1 to 3

3: Type of WB adjustment table	
n	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/γ OFF
3	WB interlocked OFF/γ ON

18: Transition of protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[8] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	******
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value	
n	n: 0 to 7 (Level n)

5 to 8: ADDRESS α, β setting	
nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction	
0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode	
0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[9] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:
The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

[10] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data	
0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[11] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data	
0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)	
0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

[12] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 28 (DATA) + 2 (CS) = 33 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Check flag for production	1 byte	E
2	Reserved	3 byte	****
3	DTB HARDWARE version	4 byte	0342
4	Reserved	16 byte	****************
5	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

[13] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information / FAN rotation state / Room light sensor information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	A/D value of temperature of MTB/MR section	3 byte	276
2	FAN rotating speed of MTB/MR section (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3	A/D value of room light sensor	3 byte	009
4	Level of room light sensor (Value: 1 to 5)	1 byte	5

* Returned each block.

[14] QNG (SHUTDOWN INFORMATION OF MTB SECTION)

The command QNG is for acquiring the data from the 8 latest shutdown (SD) logs of the MTB section.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	To acquire data on the shutdown (NG) logs of MTB side	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QNG
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the MTB hour meter for the latest SD	7 byte	0752013
4	Reserved	3 byte	000 fixed
5	Second latest SD data	1 byte	5
6	Second latest SD subcategory data	1 byte	1
7	Data from the MTB hour meter for the second latest SD	7 byte	0495204
8	Reserved	3 byte	000 fixed
9	Third latest SD data	1 byte	A
10	Third latest SD subcategory data	1 byte	2
11	Data from the MTB hour meter for the third latest SD	7 byte	0365814
12	Reserved	3 byte	000 fixed
13	Fourth latest SD data	1 byte	5
14	Fourth latest SD subcategory data	1 byte	0
15	Data from the MTB hour meter for the fourth latest SD	7 byte	0256612
16	Reserved	3 byte	000 fixed
17	Fifth latest SD data	1 byte	7
18	Fifth latest SD subcategory data	1 byte	2
19	Data from the MTB hour meter for the fifth latest SD	7 byte	0105628
20	Reserved	3 byte	000 fixed
21	Sixth latest SD data	1 byte	B
22	Sixth latest SD subcategory data	1 byte	0
23	Data from the MTB hour meter for the sixth latest SD	7 byte	0003009
24	Reserved	3 byte	000 fixed
25	Seventh latest SD data	1 byte	C
26	Seventh latest SD subcategory data	1 byte	1
27	Data from the MTB hour meter for the seventh latest SD	7 byte	00002A9
28	Reserved	3 byte	000 fixed
29	Eighth latest SD data	1 byte	C
30	Eighth latest SD subcategory data	1 byte	4
31	Data from the MTB hour meter for the eighth latest SD	7 byte	0000012
32	Reserved	3 byte	000 fixed
CS	2 Byte	2 Byte	7D

< SD Information No. >

Frequency *	Shutdown Factor	Remarks (Operation)
1	Failure of Power Supply of VCC	Immediately Shutdown
5	Shutdown signal from D-Amp. / short-circuit of speaker terminal	Go to No. 5 Subcategory Information
6	Failure of communication with Module microcomputer	Immediately Shutdown
7	Failure in 3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8	Failure in IIC communication of Main microcomputer	Go to No. 8 Subcategory Information
9	Failure in Communication of Main microcomputer	Immediately Shutdown
10(A)	Abnormally in FAN	Go to No. 10 Subcategory Information
11(B)	Abnormally in high temperature	Immediately Shutdown
12(C)	Failure in Digital Tuner	Go to No. 12 Subcategory Information
13(D)	Failure in Power Supply at MTB section	Go to No. 13 Subcategory Information
15(F)	Failure in Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 5 Subcategory Information on "Shutdown signal from D-Amp./short-circuit of speaker terminal" >

Value	Shutdown Factor	Remarks (Operation)
1	A_NG	Shutdown after 5 seconds warning
2	OTW	Shutdown after 5 seconds warning

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Immediately Shutdown
2	Communication error of ARIA	Immediately Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Immediately Shutdown
2	MSP/MAP	Immediately Shutdown
3	AV-Switch	Immediately Shutdown
4	RGB-Switch	Immediately Shutdown
5	Main VDEC	Immediately Shutdown
6	VDEC-SDRAM	Immediately Shutdown
7	AD/PLL	Immediately Shutdown
8	HDMI	Immediately Shutdown
9	DisplayPortTx	Immediately Shutdown
B	US-MAP	Immediately Shutdown
C	GCR	Immediately Shutdown
D	COFDEM	Immediately Shutdown

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Immediately Shutdown
2	FAN 2	Immediately Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	Starting error of the digital tuner	Communication stop
2	Communication error with the digital tuner	
3	DTB device error	
4	Abnormmally in BCM7038	
5	Fugue	
6	Audio Chip	
7	Tuner 1/Tuner 1 or 2	
8	Card I/F IC	
9	VBI Slicer	
B	Flash	
C	EEPROM	
D	EEPROM	
F	DTV Antenna	
G	Home Gallery	
I	Application	
J	DEMOD(US)/COFDEM(EU)	
K	Tuner 2	
L	S2DEMOD	
M	LNB	

< No. 13 Subcategory Information on "Failure in Power supply at MTB section" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Immediately Shutdown
2	RST 4	Immediately Shutdown

[15] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

18 to 20: Each protection function	
0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations	
0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status	
0	Normal status
1	Emergency status

23: Reset operation status	
A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status	
0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

[16] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command. (A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[17] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section “6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE”.
[FAN]	During FAY	Adjustment command is invalid.	

[18] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

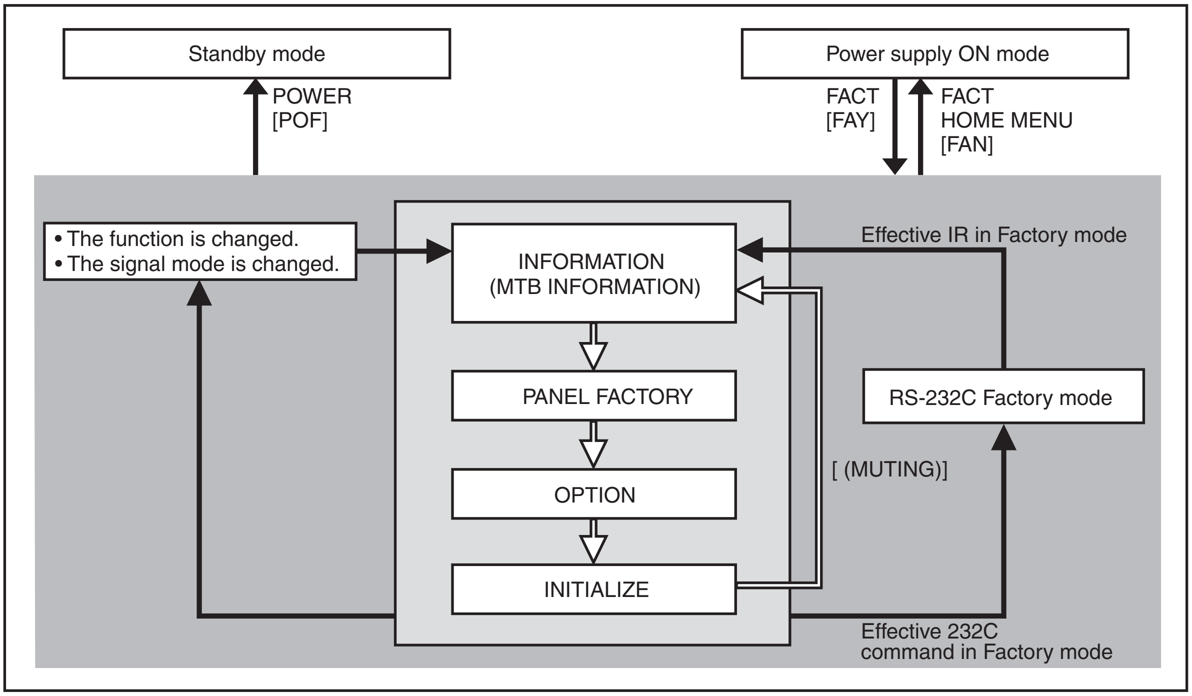
Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

[1] SERVICE FACTORY MODE TRANSITION CHART


Standby mode
Power supply ON mode
POWER
[POF]
FACT
[FAY]
FACT
HOME MENU
[FAN]
• The function is changed.
• The signal mode is changed.
INFORMATION
(MTB INFORMATION)
Effective IR in Factory mode
PANEL FACTORY
RS-232C Factory mode
[(MUTING)]
OPTION
INITIALIZE
Effective 232C
command in Factory mode

[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)
- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)
- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- From this model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered
(including when the "FAY" command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Setting of Parental Control	When this is turned off, the block of the screen is released.
Power Control	Turn off the operation (However, the setting maintains it.)
Image Position	Central value operation

Note: Enter the factory after cancelling ACI because the ACI operation setting OFF and not done.

■ User data

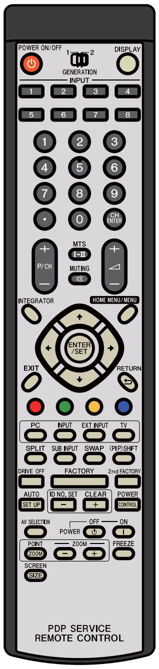
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size).
  Are reset to the default values (data stored in memory will be retained).
  Screen size will be retained.

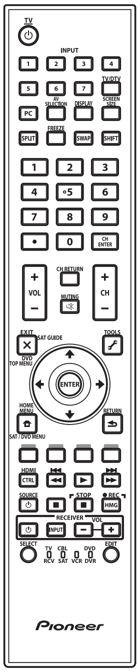
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 7 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.


POWER ON/OFF
DISPLAY
GENERATION
INPUT
MTS
P/CH
MUTING
INTEGRATOR
HOME MENU / MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO SET UP
ID NO. SET
CLEAR
POWER CONTROL
AV SELECTION
POWER
OFF
ON
POINT ZOOM
ZOOM
FREEZE
SCREEN SIZE
PDP SERVICE REMOTE CONTROL

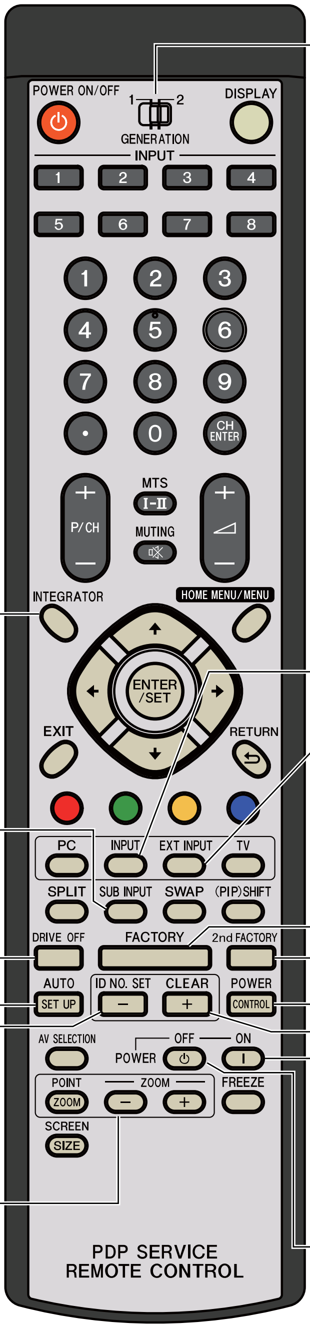
PDP service remote control


TV
INPUT
TV/DTV
AV SELECTION
DISPLAY
SCREEN SIZE
PC
FREEZE
SPLIT
SWAP
SHIFT
CH ENTER
CH RETURN
VOL
CH
MUTING
EXIT
SAT GUIDE
TOOLS
DVD TOP MENU
ENTER
HOME MENU
RETURN
SAT / DVD MENU
HDMI CTRL
STOP
REC
SOURCE
RECEIVER
VOL
INPUT
SELECT
TV CBL RCV SAT
DVD VCR DVR
EDIT
Pioneer

Supplied remote control

[5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:


POWER ON/OFF
1
2
GENERATION
DISPLAY
INPUT
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8
9
•
0
CH ENTER
P/CH
MTS
I-II
MUTING
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
OFF
ON
POWER
POINT
ZOOM
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

GENERATION switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

INTEGRATOR
Press this key to enter Integrator mode.

SUB INPUT
Not used with this model.

DRIVE OFF
Press this key to turn off the panel drive. For details on how to cancel this command, see the explanation for the DRV command.

AUTO SETUP
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET
Not used with this model.

POINT ZOOM
Not used with this model.

ZOOM +/-
Not used with this model.

INPUT
Press this key to cyclically change the input source.

EXT INPUT
Press this key to cyclically change only the external input source.

FACTORY
Press this key to enter Factory mode.

2nd FACTORY
Not used with this model.

POWER CONTROL
Not used with this model.

CLEAR
Not used with this model.

POWER ON
Press this key to turn on the unit.
This key cannot turn the unit off.

POWER OFF
Press this key to turn off the unit.
This key cannot turn the unit on.

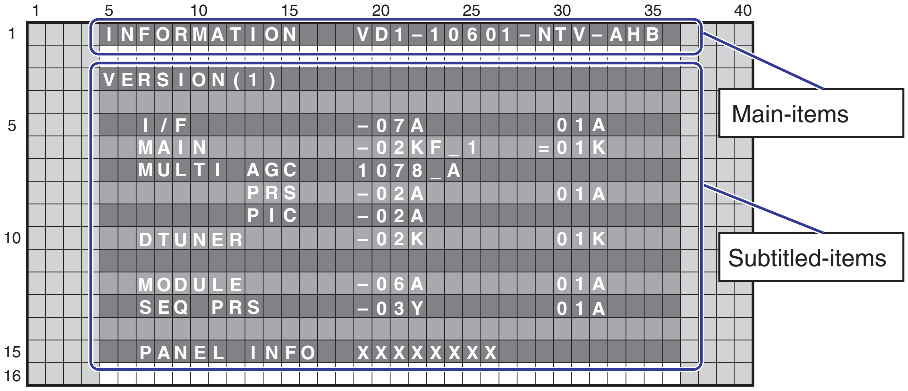
[6] FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-4] TEMPERATURE			
	[1-5] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-6] HDMI SIGNAL INFO 1			
	[1-7] HDMI SIGNAL INFO 2			
	[1-8] VDEC SIGNAL INFO 1			
	[1-9] VDEC SIGNAL INFO 2			
6.2 [2] PANEL FACTORY (+)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	
		VOL OFFSET <=>	000 to 255	
		VOL RST P <=>	000 to 255	
		VOL XPOFS1 <=>	000 to 255	
		VOL XPOFS2 <=>	000 to 255	
		VOL YKNOFS1 D <=>	000 to 255	
		VOL YKNOFS3 D <=>	000 to 255	
		VOL YKNOFS4 D <=>	000 to 255	
		VOL YKNOFSA D <=>	000 to 255	
		RESET1ST_KSB <=>	112 to 144	
		RESET2ND_KSB <=>	112 to 144	
		YSTL_1SF_KSB <=>	112 to 144	
		YSTL_1SF_HZ <=>	112 to 144	
		XSUS_1ST_B <=>	112 to 144	
		YSUS_2ND_B <=>	112 to 144	
		XSUS_3RD_B <=>	112 to 144	
		YSUS_B <=>	112 to 144	
		XSUS_B <=>	112 to 144	
		YSTL_KSB <=>	112 to 144	
		YSTL_HZ <=>	112 to 144	
		YSTL_2SF_KSB <=>	112 to 144	
		YSTL_2SF_HZ <=>	112 to 144	
		YSTL_FMR_KSB <=>	112 to 144	
		SCAN ADRS ADJ <=>	112 to 144	
		SUS FREQ <=>	<=> MODE 1 to MODE 8 <=>	
	[2-6] PANEL-2 ADJ (+)	R-HIGH <=>	000 to 999	
		G-HIGH <=>	000 to 999	
		B-HIGH <=>	000 to 999	
		R-LOW <=>	000 to 999	
		G-LOW <=>	000 to 999	
		B-LOW <=>	000 to 999	
		ABL <=>	000 to 255	
	[2-7] PANEL FUNCTION (+)	R-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		G-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		B-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		ADDRESS L1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L3 <=>	<=> PH0 to PH9<=>	
		ADDRESS L4 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U3 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U4 <=>	<=> PH0 to PH9<=>	
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	
		FULL BLACK <=>	MODE1 <=> OFF	
		PANEL RX <=>	000 to 999	
		PANEL RY <=>	000 to 999	
		PANEL GX <=>	000 to 999	
		PANEL GY <=>	000 to 999	
		PANEL BX <=>	000 to 999	
		PANEL BY <=>	000 to 999	
		CLS R <=>	000 to 255	
		CLS G <=>	000 to 255	
		CLS B <=>	000 to 255	

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2 [2] PANEL FACTORY (+)				
	[2-8] ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER/ERR	
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	
		PD INFO. <=>	NO OPRT <=> CLEAR	
		SD INFO. <=>	NO OPRT <=> CLEAR	
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	
		MAX TEMP. <=>	NO OPRT <=> CLEAR	
		MIRROR <=>	OFF <=> MODE1 to MODE3 <=>	
		CLS <=>	OFF <=> ON	
	[2-9] RASTER MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		RST MASK 01 <=>		
		• • •		
		RST MASK 25 <=>		
	[2-10] PATTERN MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		PTN MASK 01 <=>		
		• • •		
		PTN MASK 49 <=>		
	[2-11] COMBI MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		CMB MASK 01 <=>		
		• • •		
		CMB MASK 17 <=>		
6.2 [3] OPTION				
	[3-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[3-2] ANTENNA MODE <=>		CABLE <=> AIR	
	[3-3] AFT <=>		DISABLE <=> ENABLE	
	[3-4] SYNC DET (+)			for the technical analysis
	[3-5] CTI (+)			for the technical analysis
	[3-6] CC (+)			for the technical analysis
6.2 [4] INITIALIZE				
	[4-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	[4-2] FINAL SETUP (+)	DATA RESET <=>	NO <=> YES	
	[4-3] DTB SERVICE MODE (+)	MODE SHIFT <=>	NO <=> YES	for the technical analysis (*1)
	[4-4] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis
	[4-5] AUTO ADJUSTMENT (+)	AUTO ADJUST. <=>	NO <=> YES	

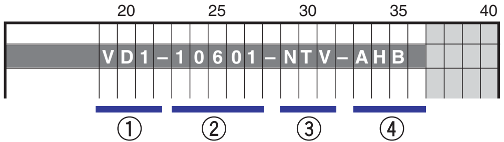
(*1): Exit the Service Factory Menu and enter the Digital Tuner Service menu.

[7] INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
Main-items
Subtitled-items

```
INFORMATION         VD1-10601-NTV-AHB

VERSION(1)

   I/F              -07A         01A
   MAIN             -02KF_1     =01K
   MULTI   AGC      1078_A
           PRS      -02A         01A
           PIC      -02A
   DTUNER           -02K         01K

   MODULE           -06A         01A
   SEQ  PRS         -03Y         01A

   PANEL  INFO      XXXXXXXX
```

Main-item indications


20
25
30
35
40
VD1-10601-NTV-AHB
①
②
③
④

① Input function

Input Functions	OSD
VIDEO 1 to 7	VD 1 to 7
Terrestrial Wave (Analog)	AIR
Cable (Analog)	CBL
Terrestrial Wave (Digital)	ARD
Cable (Digital)	CBD
Home Media Gallery	HMG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type		OSD
NTSC	Composite input	NTV
	S-connector input	NTS
Y/CB/CR		CBR
Y/PB/PR		PBR
RGB		RGB
Digital Video signal		DIG

④ Option (Destination, Panel Generation, etc.)

Options	OSD
ELITE: PRO-151/111FD	AHB
Regular: PDP-5020/6020FD	ATB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	60	SDTV*525i	60.000	15.750
20	60	SDTV*525p	60.000	31.500
30	60	HDTV*1125i	60.000	33.750
40	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
50	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC
0	DOT	●	–
1	4:3	●	●
2	FULL	●	●
3	ZOOM	●	–
4	CINEMA	●	–
5	WIDE	●	–
9	WIDE1	●	–
A	WIDE2	●	–

●: supported, –: unsupported

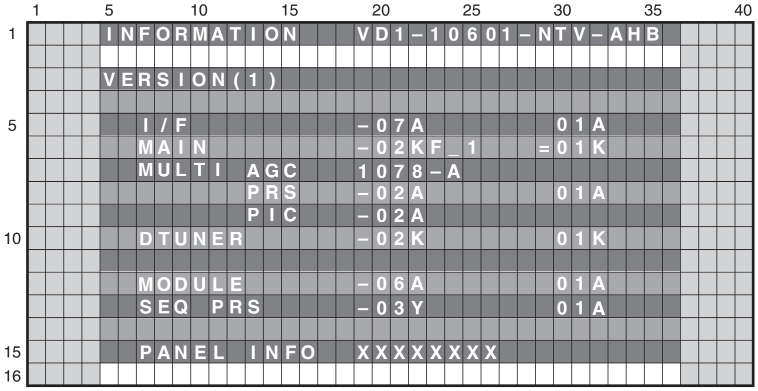
6.2 DETAILS OF FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-4]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	–
[1-5]	HOUR METER	The accumulation power ON count of the panel is displayed.	–
[1-6]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	–
[1-7]	HDMI SIGNAL INFO 2		
[1-8]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	–
[1-9]	VDEC SIGNAL INFO 2		

[1-1] VERSION (1)

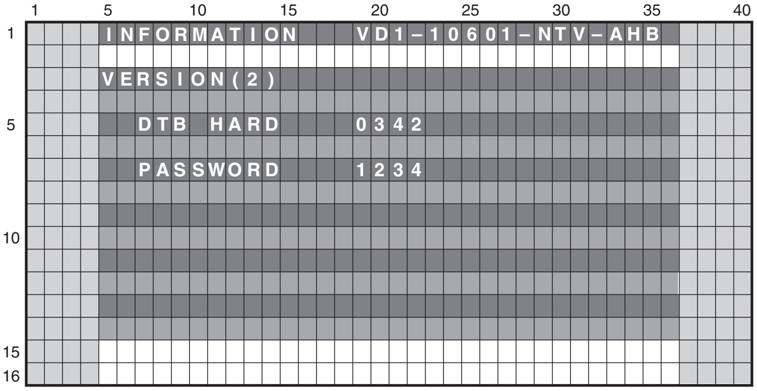


```
INFORMATION   VD1–10601–NTV–AHB

VERSION(1)

  I/F         –07A       01A
  MAIN        –02KF_1   =01K
  MULTI AGC   1078–A
        PRS   –02A       01A
        PIC   –02A
  DTUNER      –02K       01K

  MODULE      –06A       01A
  SEQ PRS     –03Y       01A

  PANEL INFO  XXXXXXXX
```

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02KF_1	=01K
MULTI AGC	AGC data of Multi processor	1078-A	
MULTI PRS	Program of Multi processor	-02A	01A
MULTI PIC	Picture quality data of Multi processor	-02A	
DTUNER	Software program of the Digital tuner	-02K	01K
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of Sequence processor	-03Y	01A

Display Item	Meaning
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (PANEL STATUS)."

[1-2] VERSION (2)


1
5
10
15
20
25
30
35
40
1
5
10
15
16

INFORMATION VD1–10601–NTV–AHB

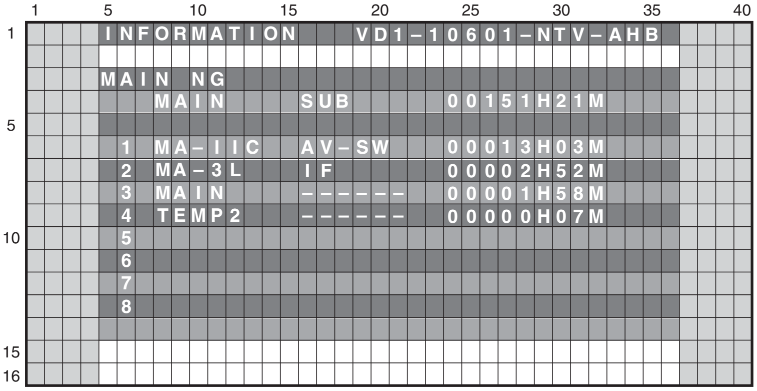
VERSION(2)

DTB HARD 0342

PASSWORD 1234

Display Item	Meaning	Display Example
DTB HARD	DTB Hardware Version	0342
PASSWORD	User setting password	1234

[1-3] MAIN NG

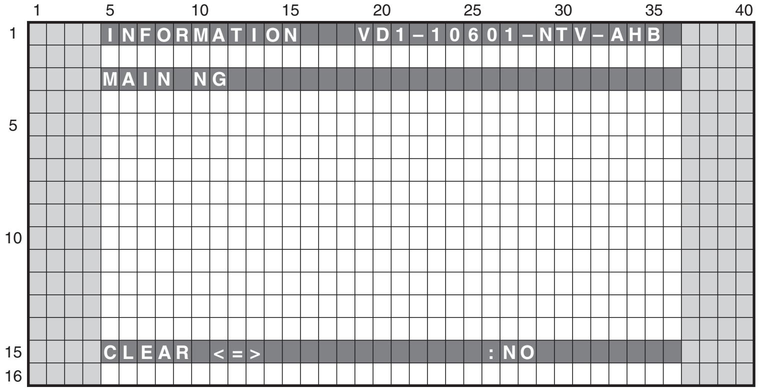


```
    INFORMATION       VD1-10601-NTV-AHB

    MAIN NG
       MAIN    SUB      00151H21M

     1 MA-IIC  AV-SW    00013H03M
     2 MA-3L   IF       00002H52M
     3 MAIN    ------   00001H58M
     4 TEMP2   ------   00000H07M
     5
     6
     7
     8
```

MTB side's Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
AUDIO		Short-circuit of the speaker terminal or failure of audio amplifier.
	AUDIO	Short-circuit of the speaker terminal or failure signal of audio amplifier (MAIN)
	OTW	Short-circuit of the speaker terminal or failure signal of audio amplifier (IF)
MODULE	----	Serial communication error of Module microcomputer.
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	US-MAP	US-MAP
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormally high temperature
DTUNER		Failure in Digital Tuner
	PS/RST	DTB Starting error
	RETRY	Communication error with DTB
	DEVICE	DTB device error
	DE-FE	DTB device error (Tuner 1)
	DTVAPP	DTB device error (Application)
	DEMOD	DTB device error (DEMOD)
RST-MA		Abnormally in MTB power
	M-DCDC	Abnormally in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power
MA-EEP	----	Main EEPROM communication error

• Clear the MAIN NG history



INFORMATION VD1–10601–NTV–AHB

MAIN NG

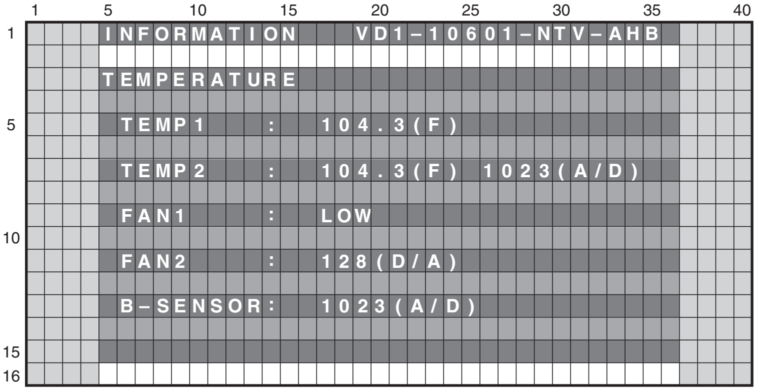
CLEAR <=> :NO

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the NG log data that are managed in MTB then return the screen to the next higher layer.

[1-4] TEMPERATURE

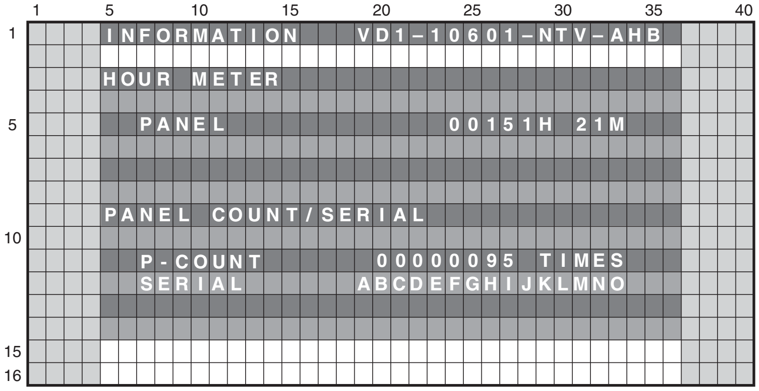
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



```
INFORMATION     VD1-10601-NTV-AHB

TEMPERATURE

  TEMP1      :   104.3(F)

  TEMP2      :   104.3(F)  1023(A/D)

  FAN1       :   LOW

  FAN2       :   128(D/A)

  B-SENSOR:      1023(A/D)
```

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Fahrenheit (F).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Fahrenheit (F) and 8 bit A/D value. Note: When temperature (F) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	The value of the FAN rotating state is displayed. STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.
B-SENSOR	The value that indicated the degree of brightness input into an Room light sensor is displayed. AD value when the output of the Room light sensor was input into IF microcomputer is displayed.

[1-5] HOUR METER

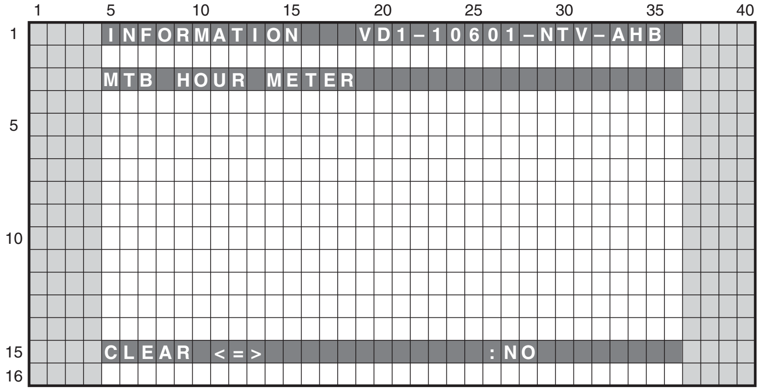


```
INFORMATION    VD1-10601-NTV-AHB

HOUR  METER

  PANEL                 00151H  21M



PANEL  COUNT/SERIAL

  P-COUNT           00000095  TIMES
  SERIAL            ABCDEFGHIJKLMNO
```

Display Item	Meaning	Display Example
PANEL	HOUR METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the product	ABCDEFGHIJKLMNO

• MTB HOUR METER

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

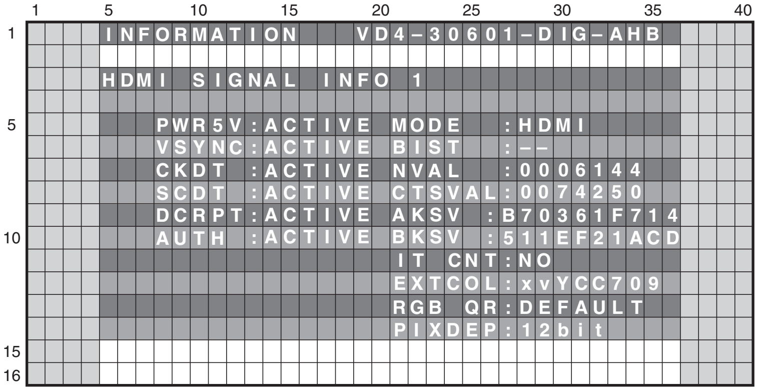


```
INFORMATION    VD1-10601-NTV-AHB

MTB  HOUR  METER











CLEAR  <=>                 :NO
```

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displaed) data that are managed in MTB then return the screen to the next higher layer.

[1-6] HDMI SIGNAL INFO 1

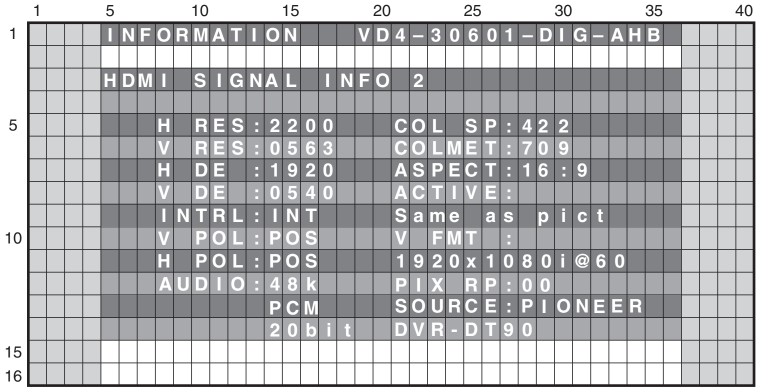


```
INFORMATION  VD4-30601-DIG-AHB

HDMI SIGNAL INFO 1

   PWR5V:ACTIVE MODE  :HDMI
   VSYNC:ACTIVE BIST  :--
   CKDT :ACTIVE NVAL  :0006144
   SCDT :ACTIVE CTSVAL:0074250
   DCRPT:ACTIVE AKSV :B70361F714
   AUTH :ACTIVE BKSV :511EF21ACD
                IT CNT:NO
                EXTCOL:xvYCC709
                RGB QR:DEFAULT
                PIXDEP:12bit
```

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

[1-7] HDMI SIGNAL INFO 2



```
INFORMATION   VD4–30601–DIG–AHB

HDMI SIGNAL INFO 2

   H RES:2200   COL SP:422
   V RES:0563   COLMET:709
   H DE :1920   ASPECT:16:9
   V DE :0540   ACTIVE:
   INTRL:INT    Same as pict
   V POL:POS    V FMT :
   H POL:POS    1920x1080i@60
   AUDIO:48k    PIX RP:00
         PCM    SOURCE:PIONEER
         20bit  DVR-DT90
```

Displays input signal status of HDMI terminal

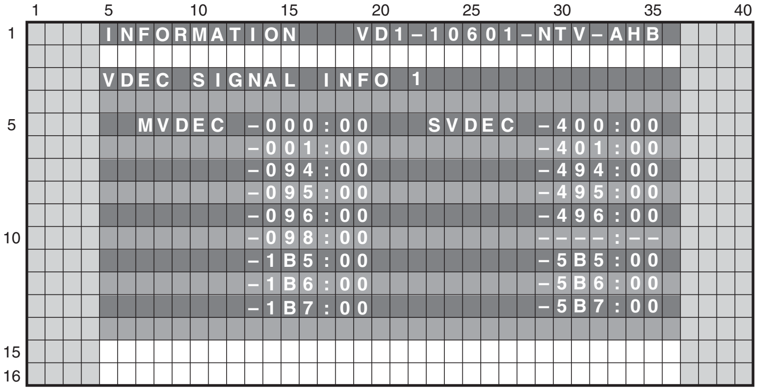
Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Calorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.
*2: If may not match to the state of source devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution
Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24

[1-8] VDEC SIGNAL INFO 1

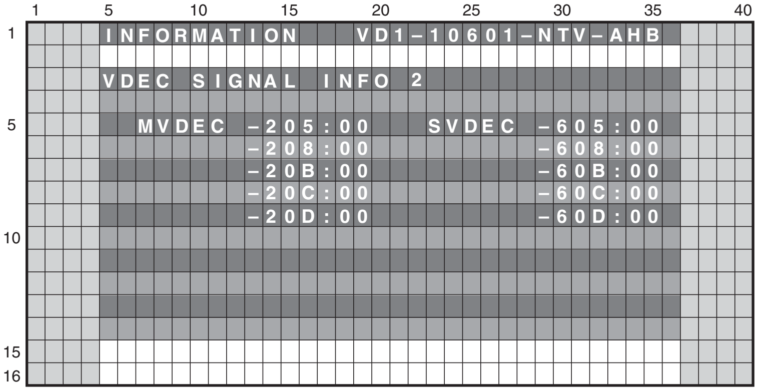


```
INFORMATION     VD1-10601-NTV-AHB

VDEC SIGNAL INFO 1

  MVDEC  -000:00     SVDEC  -400:00
         -001:00            -401:00
         -094:00            -494:00
         -095:00            -495:00
         -096:00            -496:00
         -098:00            ----:--
         -1B5:00            -5B5:00
         -1B6:00            -5B6:00
         -1B7:00            -5B7:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-9] VDEC SIGNAL INFO 2



```
INFORMATION     VD1-10601-NTV-AHB

VDEC SIGNAL INFO 2

  MVDEC  -205:00     SVDEC  -605:00
         -208:00            -608:00
         -20B:00            -60B:00
         -20C:00            -60C:00
         -20D:00            -60D:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

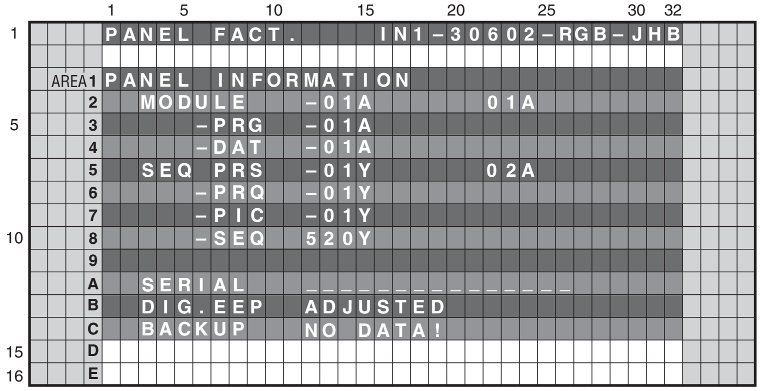
This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

No.	Indication	Description of functions
[2-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[2-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[2-3]	POWER DOWN	The power-down history is displayed.
[2-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[2-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[2-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[2-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[2-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[2-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[2-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[2-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

[2-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.      IN1-30602-RGB-JHB

AREA1 PANEL INFORMATION
2       MODULE      -01A       01A
3            -PRG   -01A
4            -DAT   -01A
5       SEQ PRS     -01Y       02A
6            -PRQ   -01Y
7            -PIC   -01Y
8            -SEQ   520Y
9
A       SERIAL      _______________
B       DIG.EEP     ADJUSTED
C       BACKUP      NO DATA!
D
E
```

■ Key operation

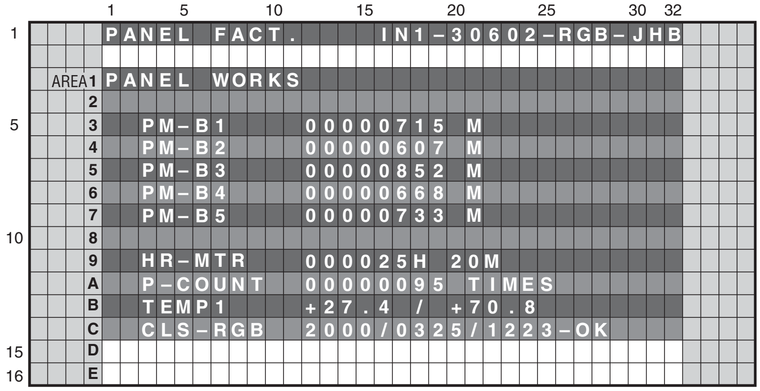
<DOWN>	: Shifting to PANEL WORKS
<UP>	: Shifting to COMBI MASK SETUP (+)
<L/R>	: Updating displayed information

■ Contents of the Display item

MODULE	: The version of data written in the Module microcomputer is indicated.
-PRG	: The program version of the Module microcomputer is indicated.
-DAT	: The data version of the Module microcomputer is indicated.
SEQ PRS	: The version of data written in the Sequence LSI is indicated.
-PRG	: The program version of the Sequence LSI is indicated.
-PIC	: The Picture-data version of the Sequence LSI is indicated.
-SEQ	: The sequence-data version of the Sequence LSI is indicated.
SERIAL	: The serial number of the module is indicated.
DIG.EEP	: The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP	: The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[2-2] PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.      IN1-30602-RGB-JHB

AREA1 PANEL WORKS
2
3       PM-B1       00000715 M
4       PM-B2       00000607 M
5       PM-B3       00000852 M
6       PM-B4       00000668 M
7       PM-B5       00000733 M
8
9       HR-MTR      000025H 20M
A       P-COUNT     00000095 TIMES
B       TEMP1       +27.4 / +70.8
C       CLS-RGB     2000/0325/1223-OK
D
E
```

Temperature unit is " °C (Centigrade) ".

■ Key operation

<DOWN>	: Shifting to POWER DOWN
<UP>	: Shifting to PANEL INFORMATION
<L/R>	: Updating displayed information

■ Contents of the Display item

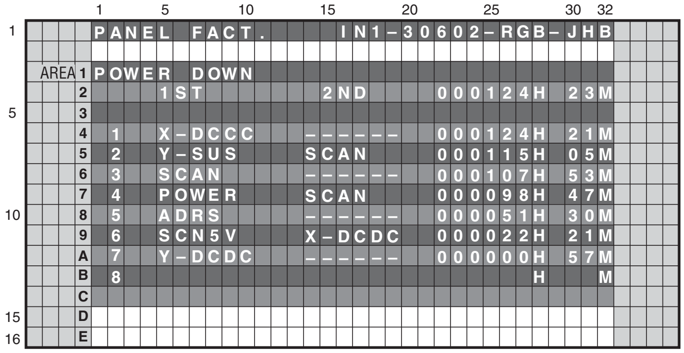
- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:
Turning ON the functions of the color sensor can be performed in the ETC(+) layer.

[2-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.



```
PANEL FACT.    IN1-30602-RGB-JHB

POWER DOWN
    1ST       2ND    000124H 23M

 1  X-DCCC   ------  000124H 21M
 2  Y-SUS    SCAN    000115H 05M
 3  SCAN     ------  000107H 53M
 4  POWER    SCAN    000098H 47M
 5  ADRS     ------  000051H 30M
 6  SCN5V    X-DCDC  000022H 21M
 7  Y-DCDC   ------  000000H 57M
 8                         H   M
```

■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

■ Contents of the Display item

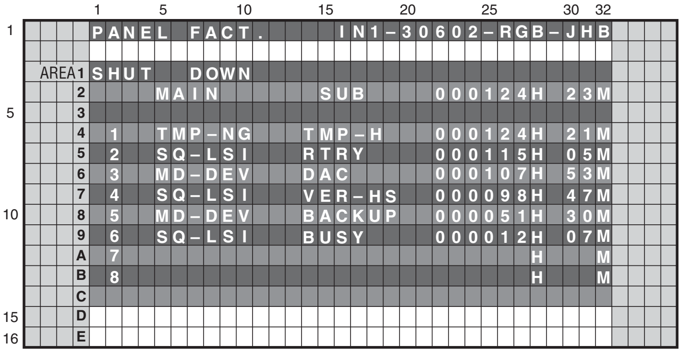
- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[2-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.    IN1-30602-RGB-JHB

SHUT  DOWN
    MAIN      SUB    000124H 23M

 1  TMP-NG   TMP-H   000124H 21M
 2  SQ-LSI   RTRY    000115H 05M
 3  MD-DEV   DAC     000107H 53M
 4  SQ-LSI   VER-HS  000098H 47M
 5  MD-DEV   BACKUP  000051H 30M
 6  SQ-LSI   BUSY    000012H 07M
 7                         H   M
 8                         H   M
```

■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

■ Contents of the Display item

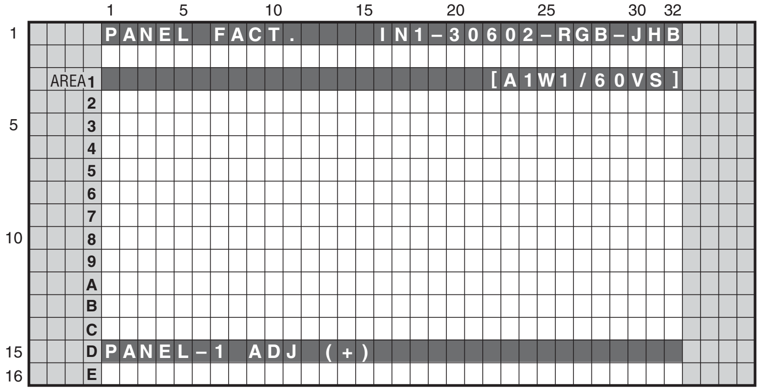
- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	**OSD Indication**	**Sub cause**	**OSD Indication**
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	–	–
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

[2-5] PANEL-1 ADJ (+)

This is a page for settings for the driving voltage and AM radio countermeasures. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.
On third line of the screen, the white balance, ABL table, and drive sequence in the current status are displayed.
(Items that have lower layers are the same.)



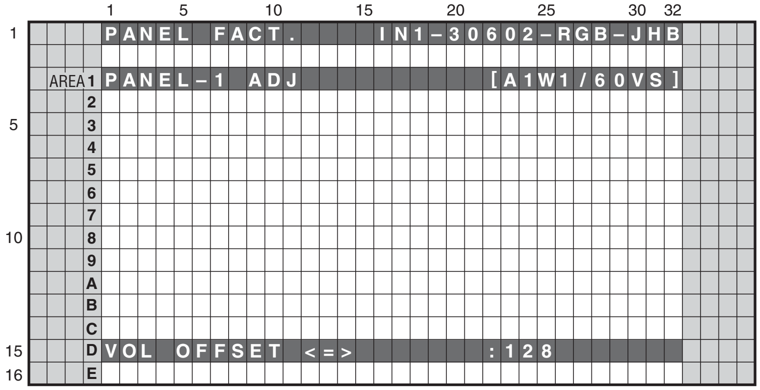
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PANEL-1 ADJ (+)

■ **Key operation**

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PANEL-1 ADJ [A1W1/60VS]

VOL OFFSET <=> :128

■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

When entered to this layer, panel white balance and the gamma setting become the default temporarily for setting that is necessary for voltage adjustment. Turn off the noise option function.

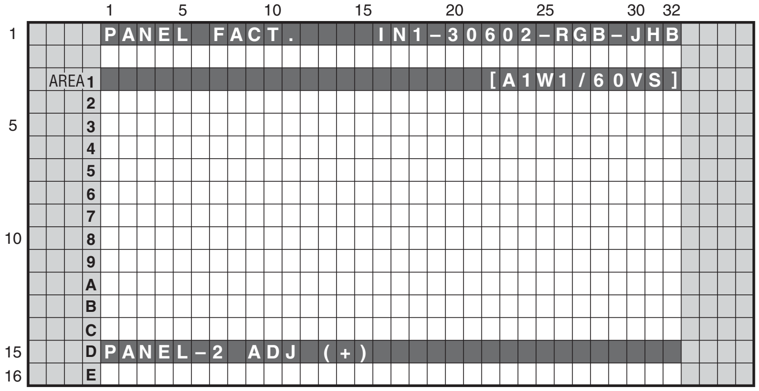
<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnofs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D<=>			V4F	
9	∆ Vyknofs1,2/3/4	VOL YKNOFSA D<=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

[2-6] PANEL-2 ADJ (+)

- White balance of the panel can be adjusted. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



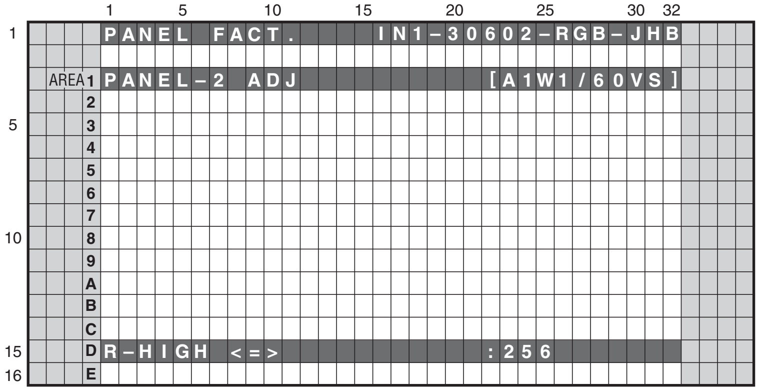
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PANEL-2 ADJ (+)

■ Key operation

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PANEL-2 ADJ [A1W1/60VS]

R-HIGH <=> :256

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of PANEL-2 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	Panel WB R highlight	R-HIGH <=>	000 to 999	Factory adjustment value	PRH	
2	Panel WB G highlight	G-HIGH <=>			PGH	
3	Panel WB B highlight	B-HIGH <=>			PBH	
4	Panel WB R lowlight	R-LOW <=>	000 to 999		PRL	
5	Panel WB G lowlight	G-LOW <=>			PGL	
6	Panel WB B lowlight	B-LOW <=>			PBL	
7	ABL	ABL <=>	000 to 255		ABL	

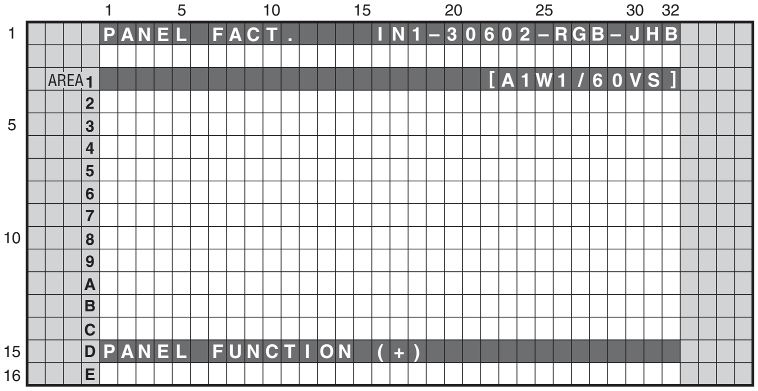
The ABL/WB adjustment values are grouped into three tables with ABL and four tables with WB, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

<ABL/WB adjustment table and Drive sequence>

ABL Table	WB Table	OSD Indication	Drive Sequence	OSD Indication	Remarks
TABLE 1	TABLE 1	A1W1	VIDEO-60Hz	60VS	
			PC-60Hz	60PS	
TABLE 2	TABLE 2	A2W2	VIDEO-48Hz	48VS	
			VIDEO-50Hz	50VS	
TABLE 3	TABLE 3	A3W3	VIDEO-72Hz	72VS	
			VIDEO-75Hz-1	75V1	
	TABLE 4	A3W4	VIDEO-75Hz-2	75V2	Correspond to MASK indication only

[2-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



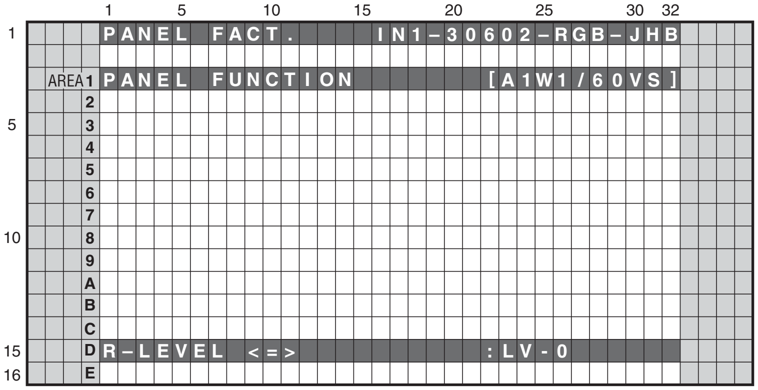
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PANEL FUNCTION (+)

■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PANEL FUNCTION [A1W1/60VS]

R-LEVEL <=> :LV-0

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

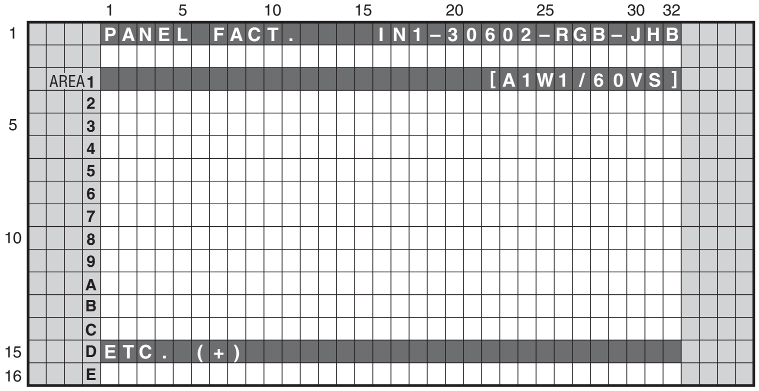
<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH2	AP0	
5	L2 address	ADDRESS L2 <=>		PH3	AP0	
6	L3 address	ADDRESS L3 <=>		PH2	AP1	
7	L4 address	ADDRESS L4 <=>		PH1	AP1	
8	U1 address	ADDRESS U1 <=>		PH2	AP2	
9	U2 address	ADDRESS U2 <=>		PH3	AP2	
10	U3 address	ADDRESS U3 <=>		PH2	AP3	
11	U4 address	ADDRESS U4 <=>		PH1	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	Factory use item
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

[2-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.
  Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



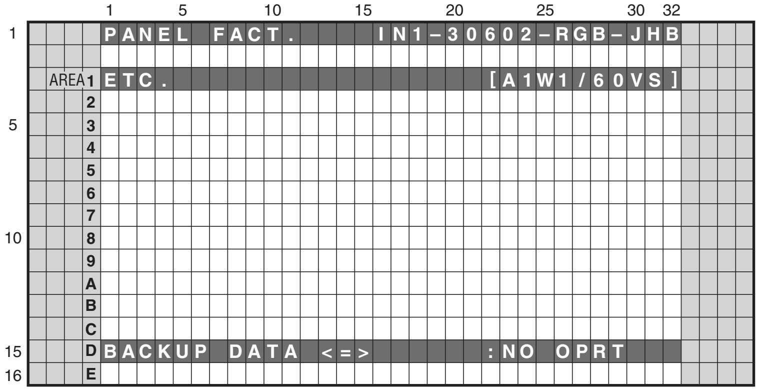
PANEL FACT. IN1–30602–RGB–JHB

AREA 1 [A1W1/60VS]

D ETC. (+)

■ Key operation

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1–30602–RGB–JHB

AREA 1 ETC. [A1W1/60VS]

D BACKUP DATA <=> :NO OPRT

■ Key operation

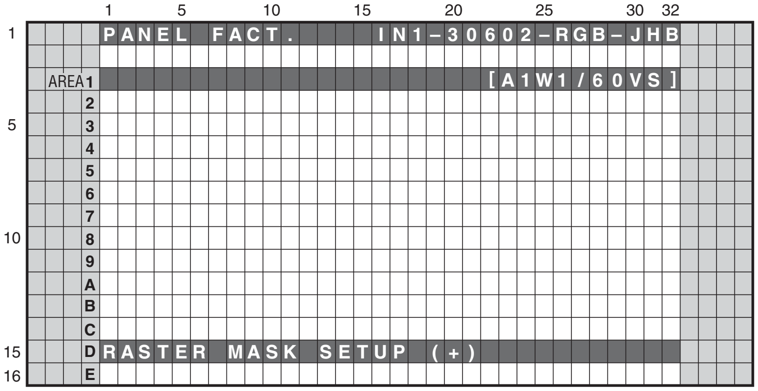
<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of ETC (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOUR METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

[2-9] RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

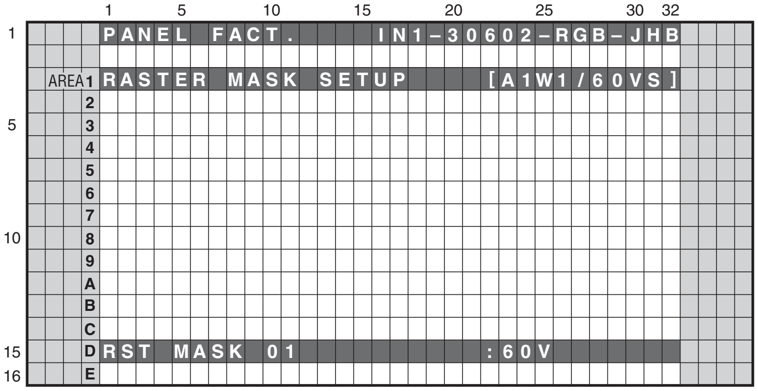

PANEL FACT. IN1-30602-RGB-JHB

AREA1 [A1W1/60VS]

RASTER MASK SETUP (+)

■ Key operation

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer


PANEL FACT. IN1-30602-RGB-JHB

AREA1 RASTER MASK SETUP [A1W1/60VS]

RST MASK 01 :60V

■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

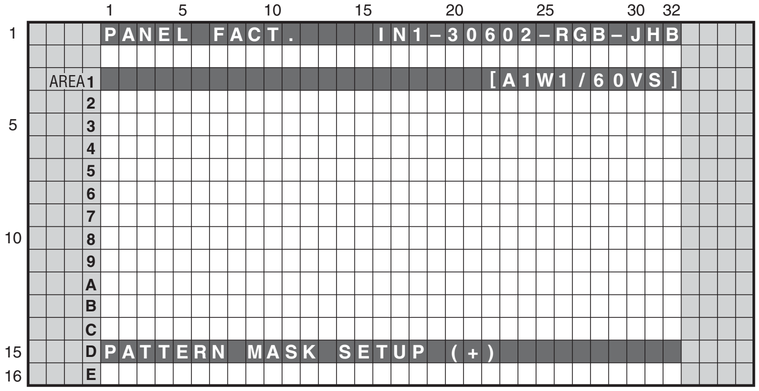
- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

[2-10] PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



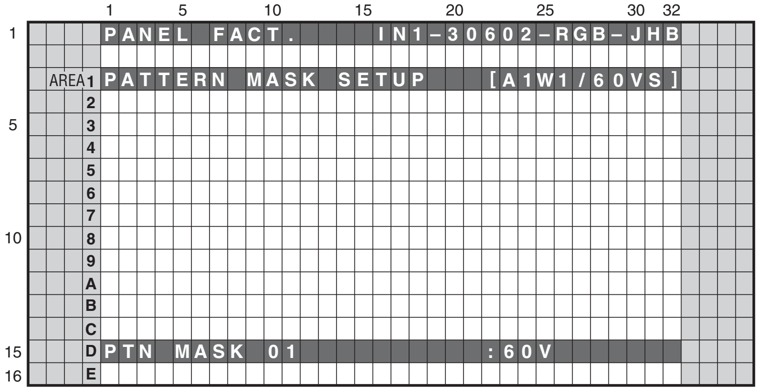
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PATTERN MASK SETUP (+)

■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PATTERN MASK SETUP [A1W1/60VS]

PTN MASK 01 :60V

■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

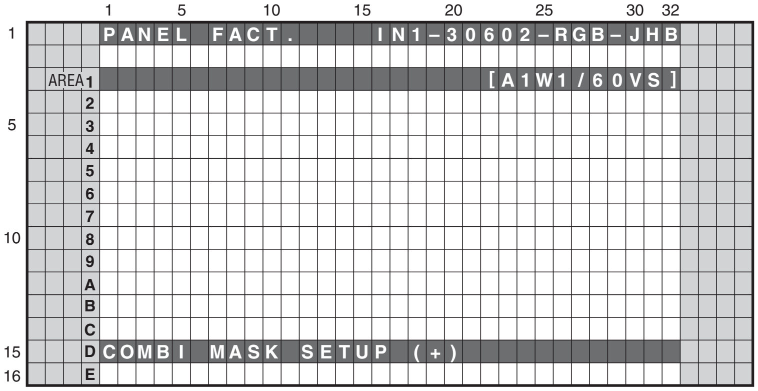
- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

[2-11] COMBI MASK SETUP (+)

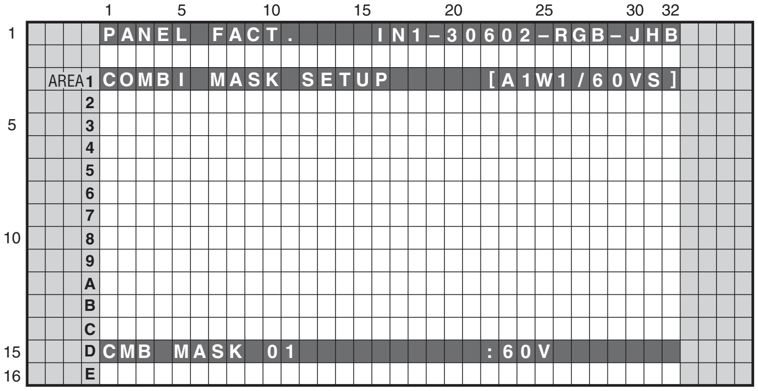
- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



```
PANEL FACT.      IN1-30602-RGB-JHB

                        [A1W1/60VS]

COMBI MASK SETUP (+)
```

■ **Key operation**

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer



```
PANEL FACT.      IN1-30602-RGB-JHB

COMBI MASK SETUP        [A1W1/60VS]

CMB MASK 01             :60V
```

■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

[3] OPTION

Operation item

No.	Function	Content	RS-232C
[3-1]	CH PRESET <=>	Set the channel map for production line	SCP
[3-2]	ANTENNA MODE <=>	Switch the CABLE/AIR of the analog tuner	INJ
[3-3]	AFT <=>	Set AFT of the analog broadcasting	AFT
[3-4]	SYNC DET (+)	Set the synchronized signal detection of VDEC	–––
[3-5]	CTI (+)	Set the synchronized signal detection of VDEC	–––
[3-6]	CC (+)	Set the ClosedCaption signal detection of VDEC	–––

[3-1] CH PRESET <=>

Exclusively used for production line.

[3-2] ANTENNA MODE <=>

Exclusively used for production line.

[3-3] AFT <=>

Exclusively used for production line.

[3-4] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[3-5] CTI (+)

Exclusively used for technical analysis (details omitted).

[3-6] CC (+)

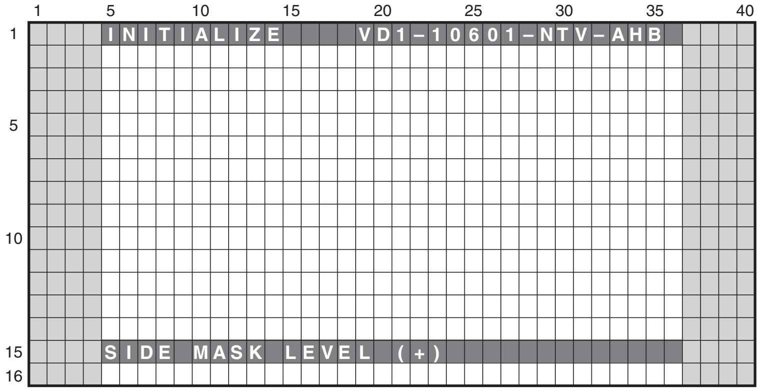
Exclusively used for technical analysis (details omitted).

[4] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[4-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[4-2]	FINAL SETUP (+)	Initialize flash memorys on virgin product status	FST
[4-3]	DTB SERVICE MODE (+)	Enter the Digital Tuner Service Menu	–––
[4-4]	Wide XGA AUTO <=>	Exclusively used for technical analsyis.	–––
[4-5]	AUTO ADJUSTMENT (+)	Perform the auto-adjustment setting process	–––

[4-1] SIDE MASK LEVEL (+)



INITIALIZE VD1–10601–NTV–AHB

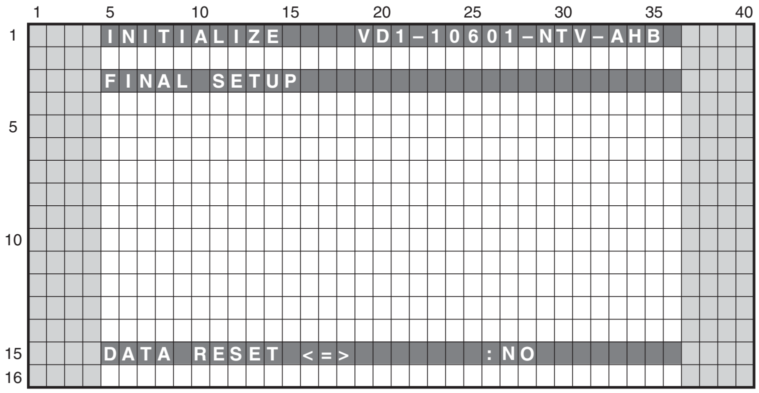
SIDE MASK LEVEL (+)

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot changed with the VOLUME +/- keys.

[4-2] FINAL SETUP (+)

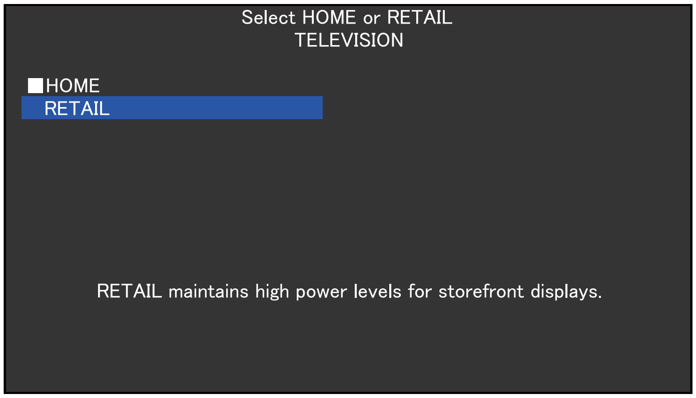


```
INITIALIZE      VD1-10601-NTV-AHB

FINAL SETUP

DATA RESET <=>        :NO
```

- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.
When replacing the MAIN Assy, the FINAL SETUP is required.

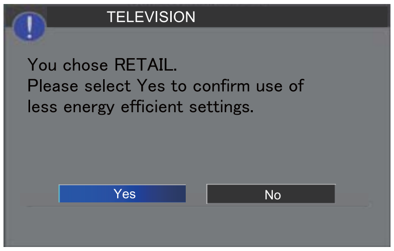
When the unit is turned on for the first time after Final Setup, the “Home”/“Retail” Mode Select screen is displayed.
Move the cursor to “Retail”, using the [⬆] or [⬇] key, then press the ENTER/SET key.



Select HOME or RETAIL
TELEVISION

RETAIL maintains high power levels for storefront displays.

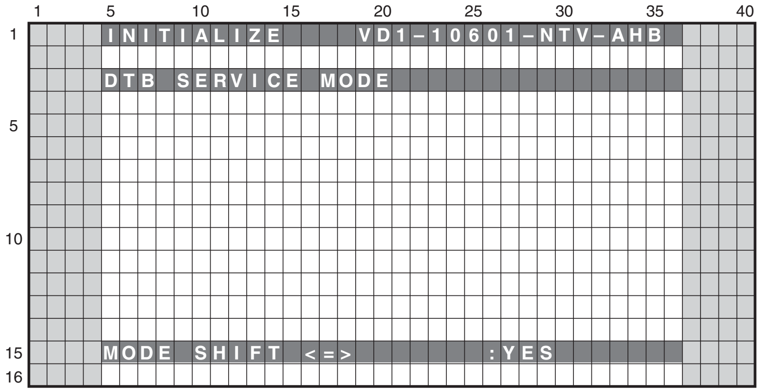
When “Retail” mode is selected, a confirmation screen shown below is displayed. Move the cursor to <Yes>, using the [➡] or [⬅] key, then press the ENTER/SET key.



TELEVISION

You chose RETAIL.
Please select Yes to confirm use of less energy efficient settings.

[4-3] DTB SERVICE MENU (+)



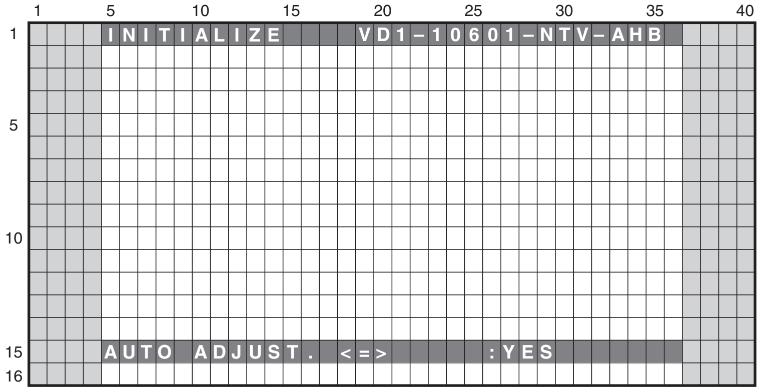
```
INITIALIZE    VD1-10601-NTV-AHB

DTB SERVICE MODE

MODE SHIFT <=>         :YES
```

If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, shift to the DTB SERVICE mode screen. (Release from the SERVICE FACTORY mode.)

[4-4] WIDE XGA AUTO <=>

Exclusively used for technical analysis (details omitted).

[4-5] AUTO ADJUSTMENT (+)



```
INITIALIZE    VD1-10601-NTV-AHB

AUTO ADJUST. <=>       :YES
```

- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the auto-adjustment action executes.

- **Be sure to power off with the remote control unit or disconnect and connect the AC cable after the auto-adjustment is completed.**
- **When replacing the IO Assy or MAIN Assy, the auto-adjustment is required.**

6.3 DIGITAL TUNER SERVICE MENU

The Digital Tuner Service Menu is provided for collecting data for technological examination when the Digital Tuner has any problem in the market. This menu is introduced here just for reference.

[1] REMOTE CONTROL CODE IN DIGITAL TUNER SERVICE MENU

The following remote control cord is valid in the Digital Tuner Service Menu.

Remote Control Keys	Basic Functions	Remarks
⬇ (DOWN)	Selecting the menu items and shifting the pages.	Shifting downward to the next item. Moving to the next lower page.
⬆ (UP)		Shifting upward to the next item. Moving to the next upper page.
⬅ (LEFT)	Selecting the setting value.	Modifying the setting of selected items.
➡ (RIGHT)		
ENTER/SET	Shifting the menu layers	Shifting to the next menu screen.
RETURN		Shifting to the previous menu screen.
Numeric Keys	Numeric input	Input the numerical value.
POWER OFF	Power OFF	Turning the power off.
STANDBY/ON		
FACTORY	Factory ON/OFF	Release the Menu, then enter the Service Factory menu.
EXIT	MENU exit	After you exit the menu, the channel that was selected on the menu will be displayed.
MUTING	Muting	
HOME MENU	HOME MENU ON/OFF	

[2] HIERARCHICAL TABLE OF DIGITAL TUNER SERVICE MENU

Item	Large Item	Middle Item	Remarks
6.3 [3] Digital Tuner Service Menu			
	6.3 [4] HMG Service Menu		
			Exclusively used for technical analysis: HomeMediaGallery-related information indication
	6.3 [5] Digital		
		Modulation	Exclusively used for technical analysis
		Frequency	Exclusively used for technical analysis
		Program Number	Exclusively used for technical analysis
		Audio PID	Exclusively used for technical analysis
		DTV Tuning Status	Exclusively used for technical analysis: Terrestrial digital broadcasting-related information indication
	6.3 [6] Software Version		
			Exclusively used for technical analysis: The software revision information that consists of it in DTB software

[3] DIGITAL TUNER SERVICE MENU SCREEN

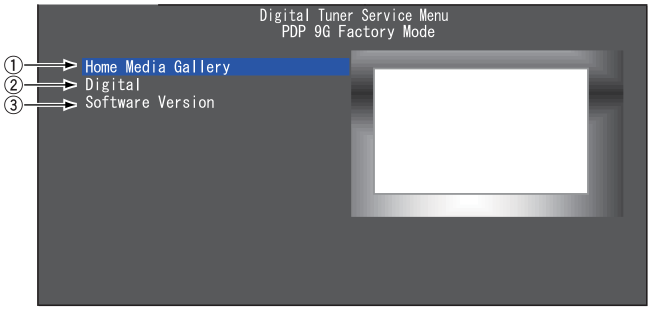
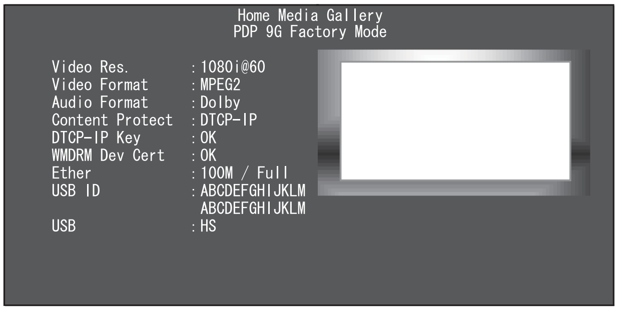


Fig.1 Digital Tuner Service Menu screen

Display a large item list of Digital Tuner Service Menu. Select each item, and shift to each setting / information display screen.

① HomeMediaGallary-related information indication
(Derivative Model is not indicated.)
② Terrestrial digital-related setting / information indication
③ Digital Tuner-related detailed software version indication

[4] HOME MEDIA GALLERY SCREEN

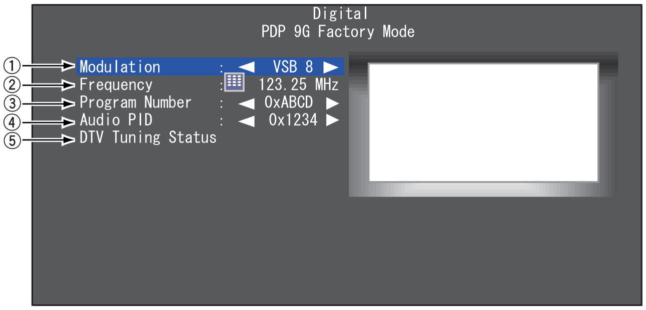


```
Home Media Gallery
PDP 9G Factory Mode

Video Res.        : 1080i@60
Video Format      : MPEG2
Audio Format      : Dolby
Content Protect   : DTCP-IP
DTCP-IP Key       : OK
WMDRM Dev Cert    : OK
Ether             : 100M / Full
USB ID            : ABCDEFGHIJKLM
                    ABCDEFGHIJKLM
USB               : HS
```

Fig.2 Home Media Gallery screen

Display the HomeMediaGallary-related information.

[5] DIGITAL SCREEN



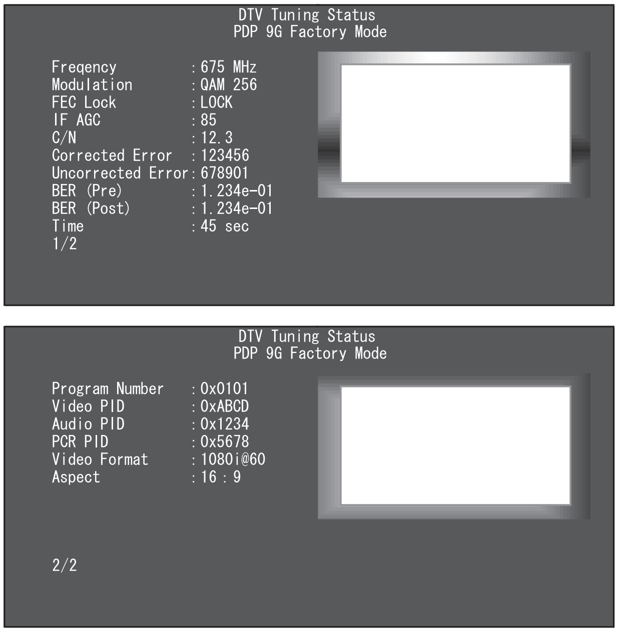
```
Digital
PDP 9G Factory Mode

① Modulation          : ◀  VSB 8  ▶
② Frequency           : ▦  123.25 MHz
③ Program Number      : ◀  0xABCD ▶
④ Audio PID           : ◀  0x1234 ▶
⑤ DTV Tuning Status
```

Fig.3 Digital screen (North America)

Display the Digital broadcasting-related setting / information indication.

① The modulation method for receiving a digital broadcast can be selected.
(QAM256/QAM64/VSB8)
② The frequency can be set (up to 2 digits after the decimal point).
③ Program Number in the same stream: Service ID can be selected.
④ Audio PID in the same stream: Audio PID can be selected.
⑤ The tuning status of a digital broadcast is displayed on a separate screen.

The data displayed on the DTV Tuning Status screen are as shown below:
The instructions for servicing using this screen is shown in "Details on how to confirm the factory DTV tuning status" of section 5.2 [6].
Therefore, this screen is introduced here just for reference.



```
DTV Tuning Status
PDP 9G Factory Mode

Freqency          : 675 MHz
Modulation        : QAM 256
FEC Lock          : LOCK
IF AGC            : 85
C/N               : 12.3
Corrected Error   : 123456
Uncorrected Error : 678901
BER (Pre)         : 1.234e-01
BER (Post)        : 1.234e-01
Time              : 45 sec
1/2
```

```
DTV Tuning Status
PDP 9G Factory Mode

Program Number    : 0x0101
Video PID         : 0xABCD
Audio PID         : 0x1234
PCR PID           : 0x5678
Video Format      : 1080i@60
Aspect            : 16 : 9



2/2
```

Fig.4 DTV Tunig Status screen

[6] SOFTWARE VERSION SCREEN

The details are not described here, as this is provided for technical examination.

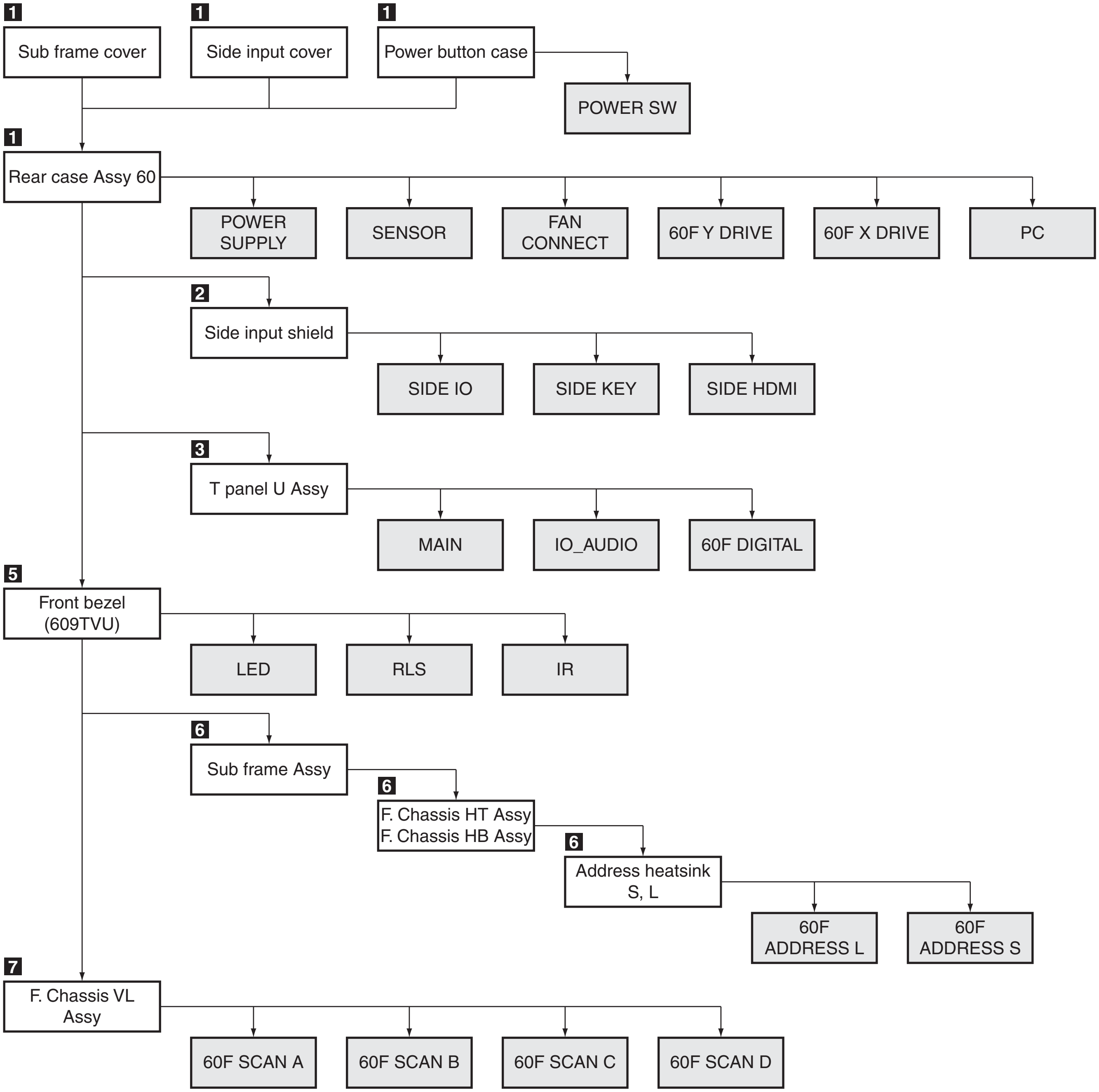
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:

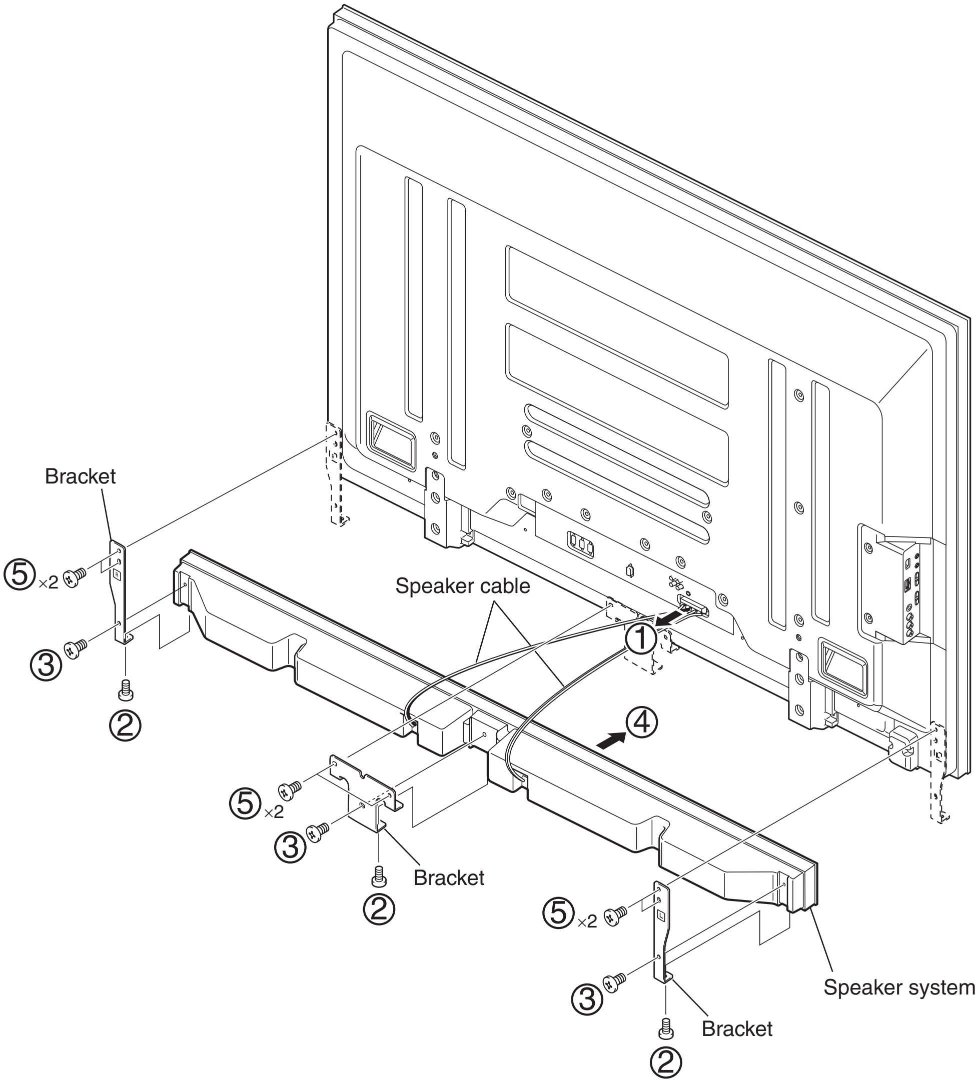

1
Sub frame cover
1
Side input cover
1
Power button case
POWER SW
1
Rear case Assy 60
POWER SUPPLY
SENSOR
FAN CONNECT
60F Y DRIVE
60F X DRIVE
PC
2
Side input shield
SIDE IO
SIDE KEY
SIDE HDMI
3
T panel U Assy
MAIN
IO_AUDIO
60F DIGITAL
5
Front bezel (609TVU)
LED
RLS
IR
6
Sub frame Assy
6
F. Chassis HT Assy
F. Chassis HB Assy
6
Address heatsink S, L
60F ADDRESS L
60F ADDRESS S
7
F. Chassis VL Assy
60F SCAN A
60F SCAN B
60F SCAN C
60F SCAN D

7.2 DISASSEMBLY

Disassembly

Speaker System

① Disconnect the speaker cables.
② Remove the three screws. (in case of hung on wall unit use)
③ Remove the three screws. (in case of table top stand use)
④ Remove the speaker system.
⑤ Remove the three brackets by removing the six screws.


Bracket
⑤×2
③
②
Speaker cable
①
④
⑤×2
③
Bracket
②
⑤×2
③
Speaker system
Bracket
②

Disassembly

1 Rear Case Assy 60

● Power button case

① Remove the two screws. (ABA1379)

② Remove the power button case.

● Side input cover

③ Remove the two screws. (ABA1378)

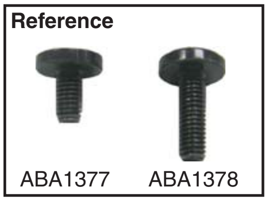
④ Remove the two screws. (ABA1377)

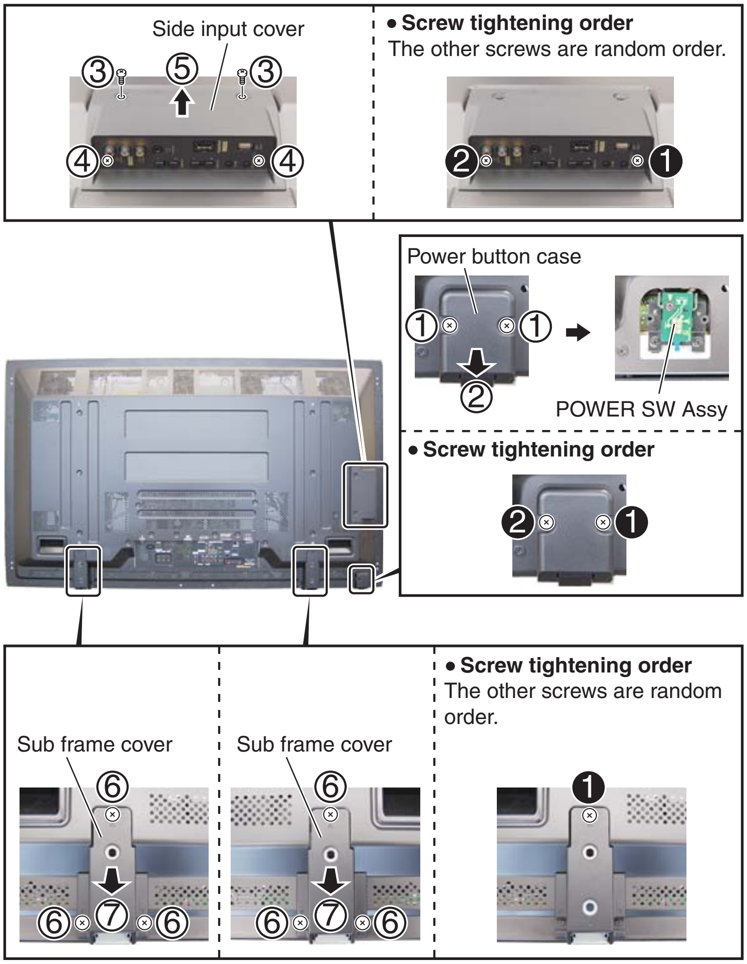
⑤ Remove the side input cover.

● Sub frame cover

⑥ Remove the six screws. (ABA1377)

⑦ Remove the two sub frame covers.


Reference
ABA1377
ABA1378

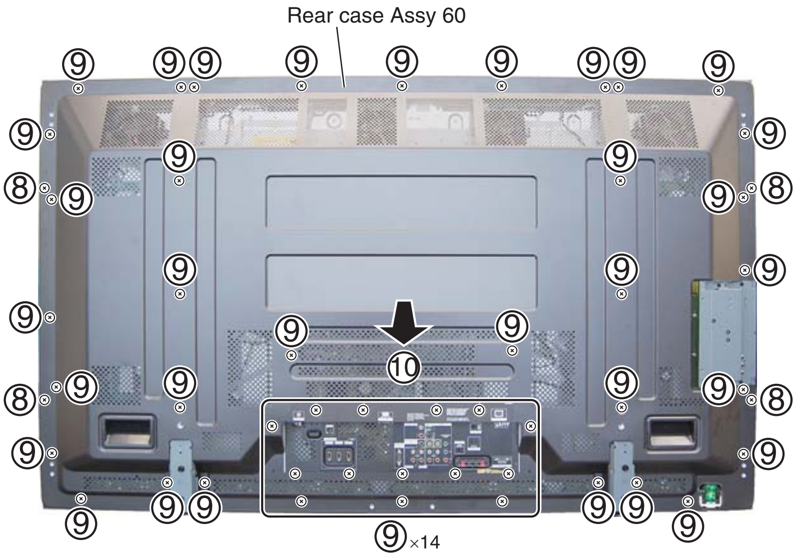

Side input cover
③
⑤
③
④
④
• Screw tightening order
The other screws are random order.
❷
❶
Power button case
①
①
②
POWER SW Assy
• Screw tightening order
❷
❶
Sub frame cover
⑥
⑥
⑦
⑥
Sub frame cover
⑥
⑥
⑦
⑥
• Screw tightening order
The other screws are random order.
❶

● Rear case Assy 60

⑧ Remove the four screws. (ABA1380)

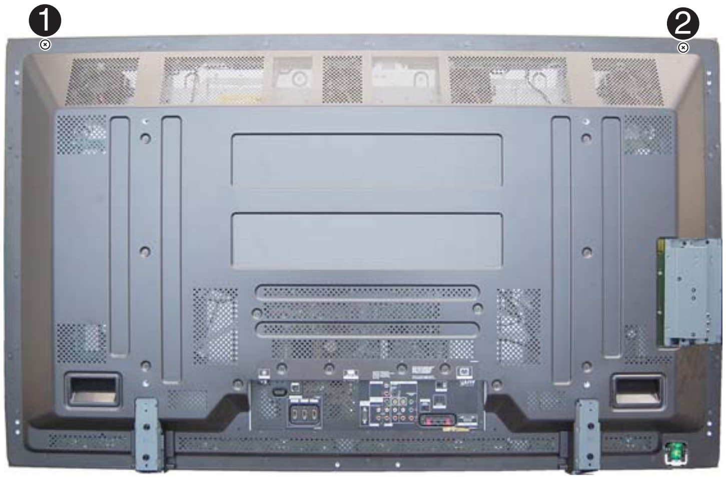
⑨ Remove the 47 screws. (ABA1377)

⑩ Remove the rear case Assy 60.


Rear case Assy 60
⑨
⑧
⑩
⑨×14

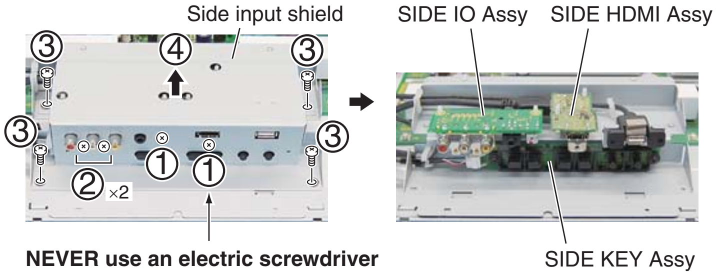
■ Screw tightening order

The other screws are random order.



2 Side Input Shield

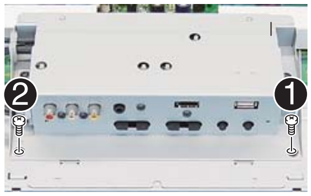
① Remove the two screws. (BMZ30P080FTB)
② Remove the two screws. (BPZ30P080FTB)
③ Remove the four screws. (AMZ30P060FTB)
④ Remove the side input shield.

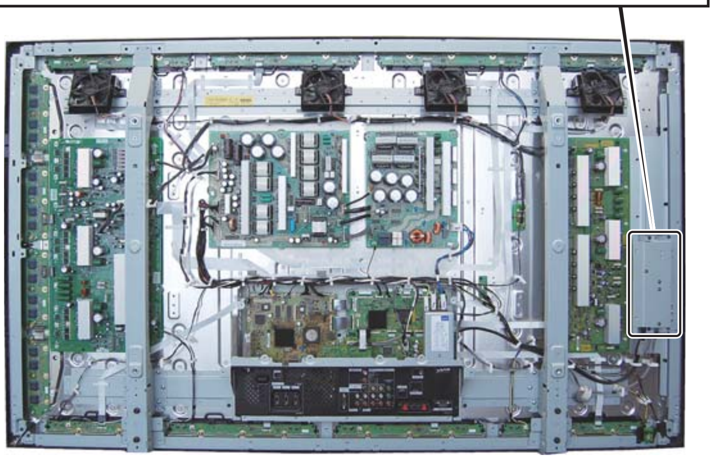

Side input shield
SIDE IO Assy
SIDE HDMI Assy
③
④
③
③
③
①
①
② ×2
SIDE KEY Assy

NEVER use an electric screwdriver for tightening this screw. Tighten it manually.

- **Screw tightening order**

The other screws are random order.

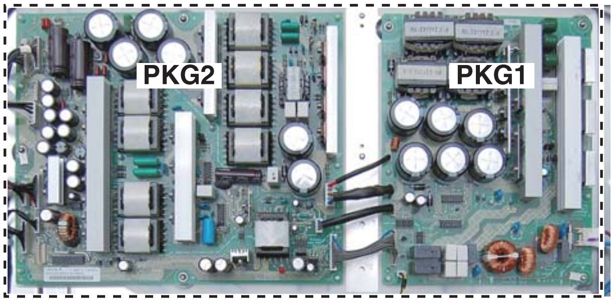




Notes on Removing the POWER SUPPLY Unit

1. Construction of the POWER SUPPLY Unit

The POWER SUPPLY Unit comprises two boards, which must be replaced at the same time.
(These boards are delivered as a set if ordered.)



POWER SUPPLY Unit

2. Discharge of residual electric charge

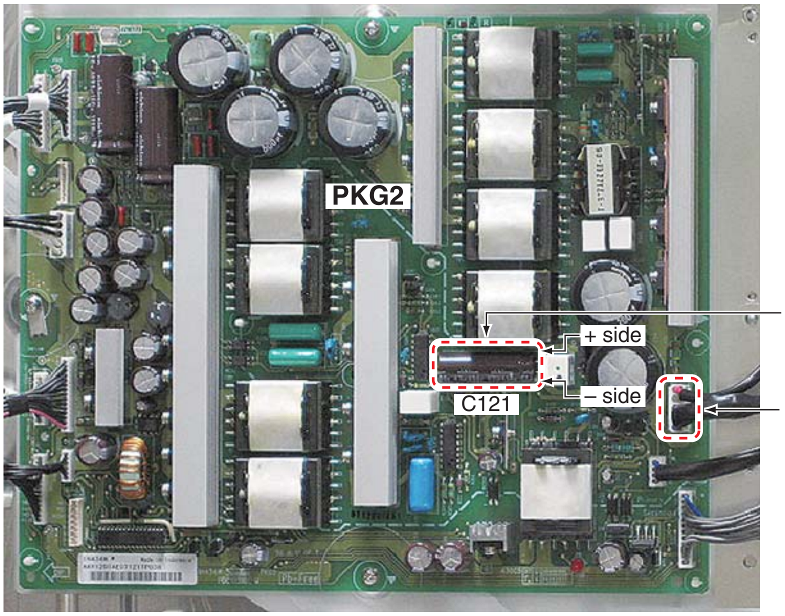
Immediately after the power cord is unplugged, residual electric charge remains for about 3-5 minutes in the capacitor inside the POWER SUPPLY Unit.
Before removing the POWER SUPPLY Unit, make sure that residual electric charge has fallen to a safe level.

How to discharge residual electric charge rapidly

Discharge residual electric charge by connecting two 220 Ω (10 W) forced discharging resistors (440 Ω in total,) one to each end, of C121.

<How to remove the POWER SUPPLY Unit>

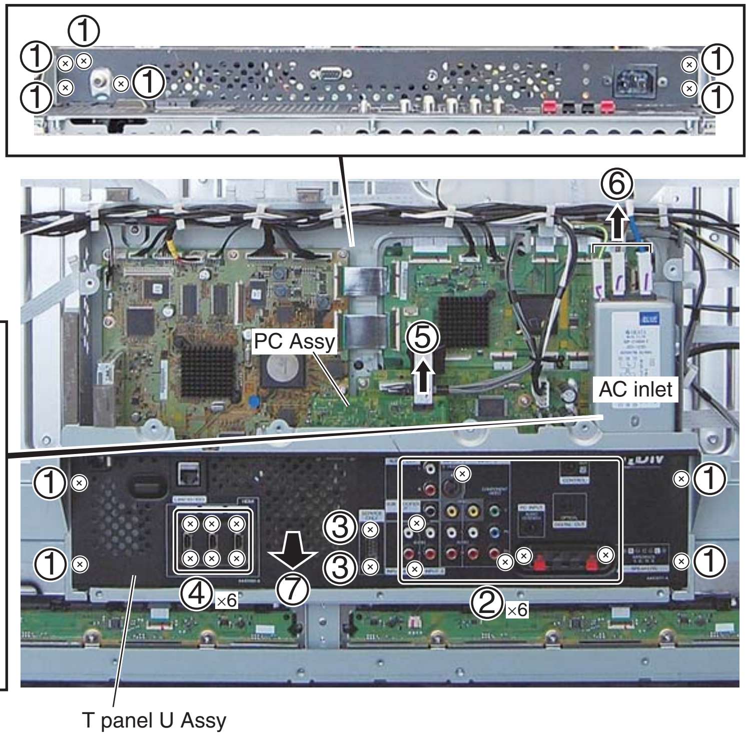
① Make sure that the power cord is unplugged. Check the voltage of both ends of C121 on the PKG2, using a tester.
② Wait until the voltage at both ends of C121 has fallen to 5 V or less.
③ When the voltage becomes less than 5 V, disconnect the connectors of the POWER SUPPLY Unit then remove it.



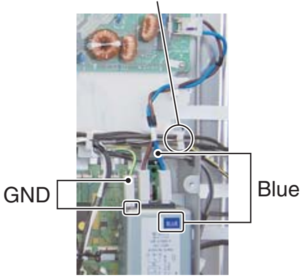
Points of checking residual electric charge:
After making sure that the voltage of both ends of C121 has fallen to 5 V or less, disconnect the PFC connector.

3 T Panel U Assy

① Remove the 10 screws. (ABA1377)
② Remove the six screws. (BPZ30P080FTB)
③ Remove the two hexagon head screws. (ABA1382)
④ Remove the six screws. (BMZ30P060FTB)
⑤ Disconnect the one flexible cable.
⑥ Disconnect the three connectors.
⑦ Remove the T panel U Assy.


①
①
①
①
①
①
⑥
PC Assy
⑤
AC inlet
①
①
③
③
①
①
④ ×6
⑦
② ×6
T panel U Assy

Do NOT pass the AC inlet jumper wire through this wire saddle.

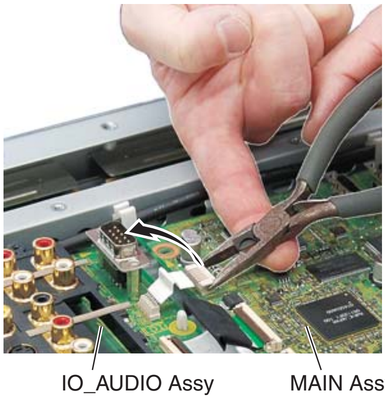


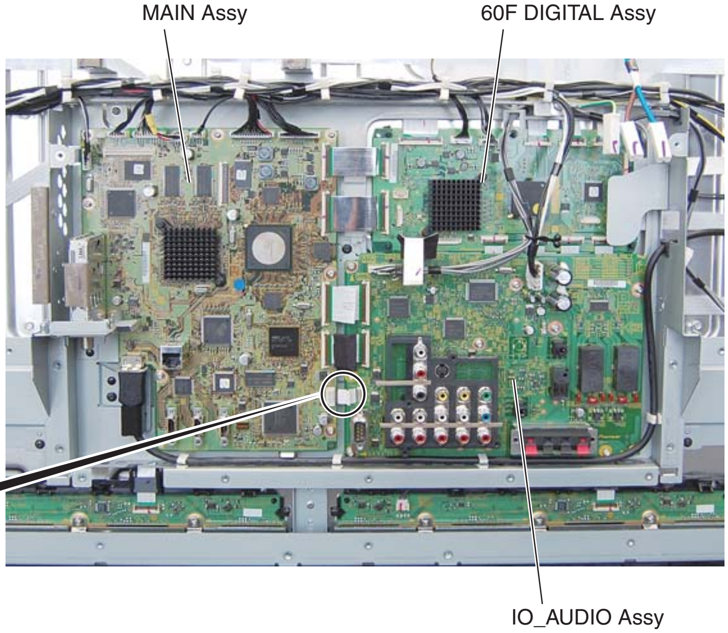
AC inlet

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

How to remove the bridge connector

(1) Grip the two short edges of the connector with longnose pliers.
(2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.

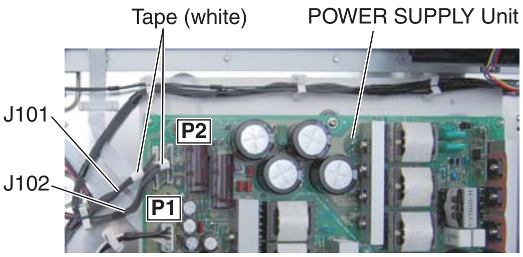

IO_AUDIO Assy
MAIN Assy


MAIN Assy
60F DIGITAL Assy
IO_AUDIO Assy

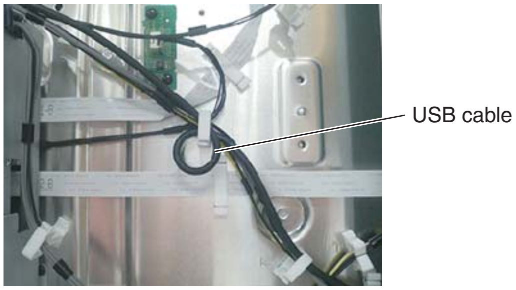
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

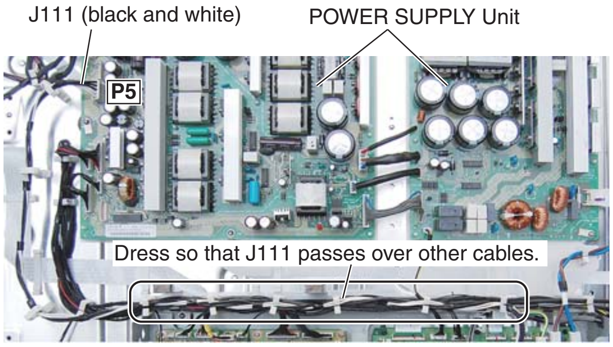
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.


Tape (white)
POWER SUPPLY Unit
J101
J102
P2
P1

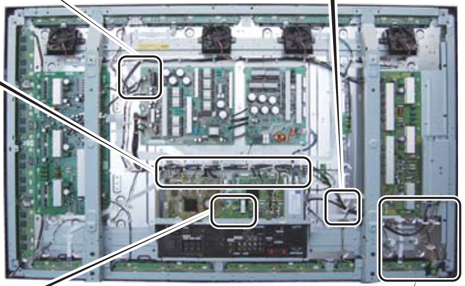
If the USB cable is wound around the clamp (as shown in the photo) upon disassembly, wind the cable as it was when reassembling.



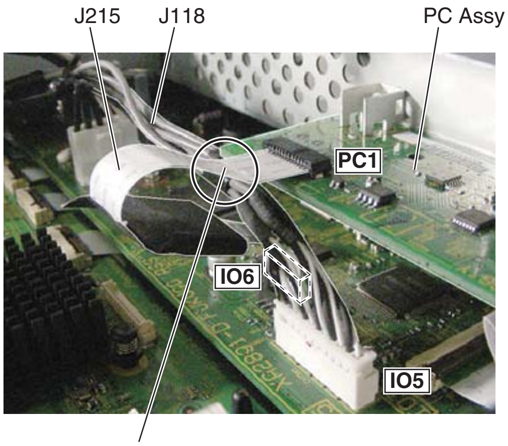
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.


J111 (black and white)
POWER SUPPLY Unit
P5

Dress so that J111 passes over other cables.

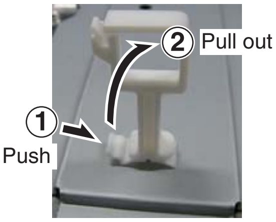


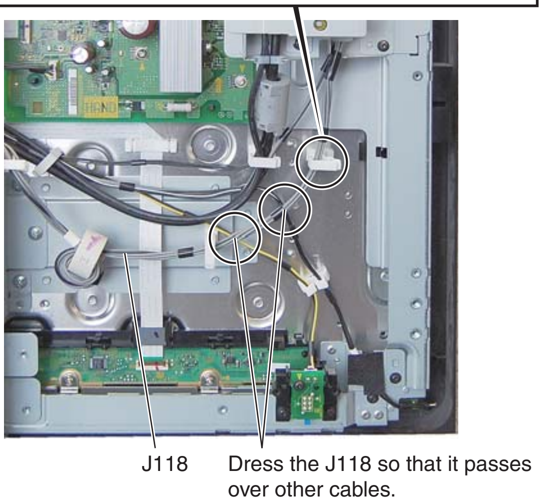
The J215 cable must be passed over the J118 cable.


J215
J118
PC Assy
PC1
IO6
IO5

Pass J215 over J118.

How to remove the newly adopted wire saddle from the chassis


② Pull out
① Push



Dress the J118 so that it passes over other cables.

Dress the J118 cable so that it passes over other cables.

4 Access to 60F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

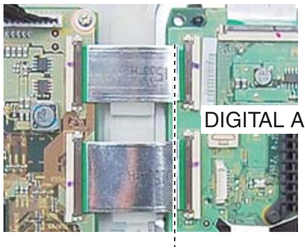
Note:
When you remove whole Multibase Section, it is not necessary to remove T panel U Assy.

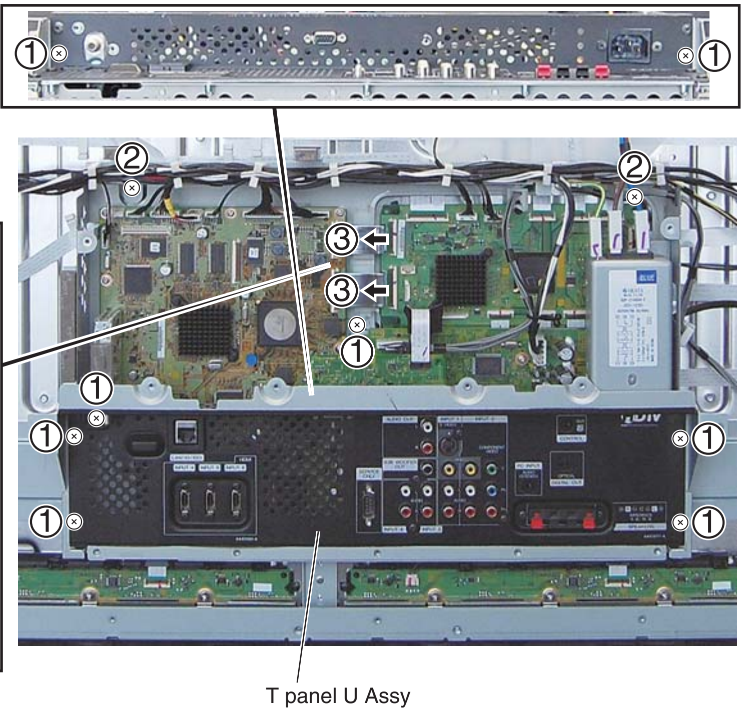
① Remove the eight screws. (ABA1377)

② Remove the two screws. (ABA1313)

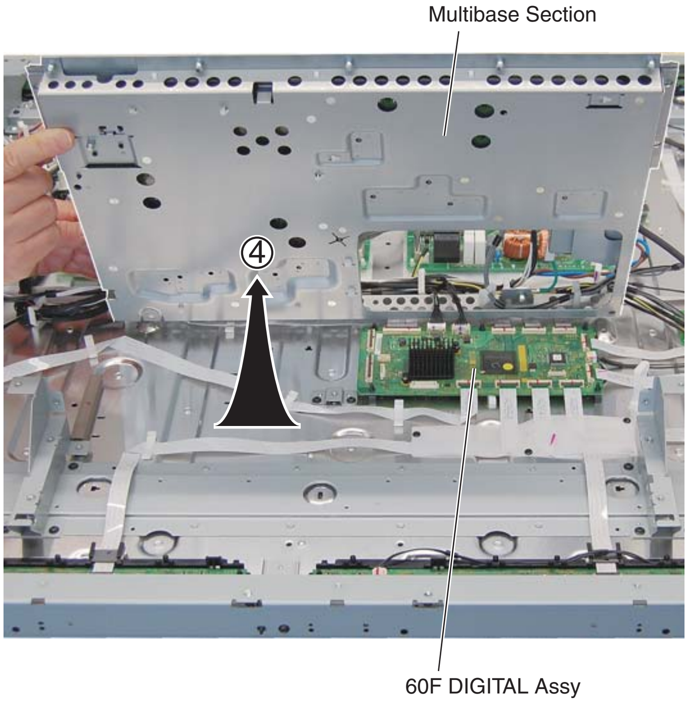
③ Disconnect the two flexible cables.

Note on connection of the flexible cable
This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**


DIGITAL Assy
Folded side


①
①
②
②
③
③
①
①
①
①
①
①
T panel U Assy

④ Lift the Multibase Section to the direction of the arrow.

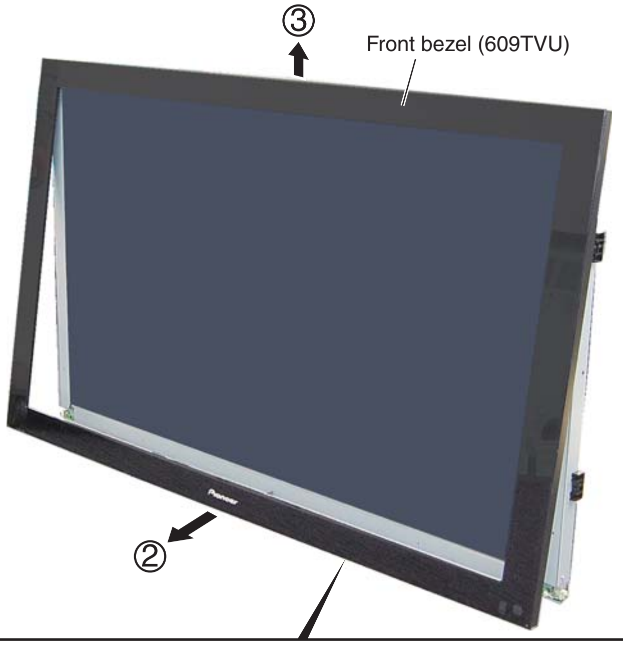

Multibase Section
④
60F DIGITAL Assy

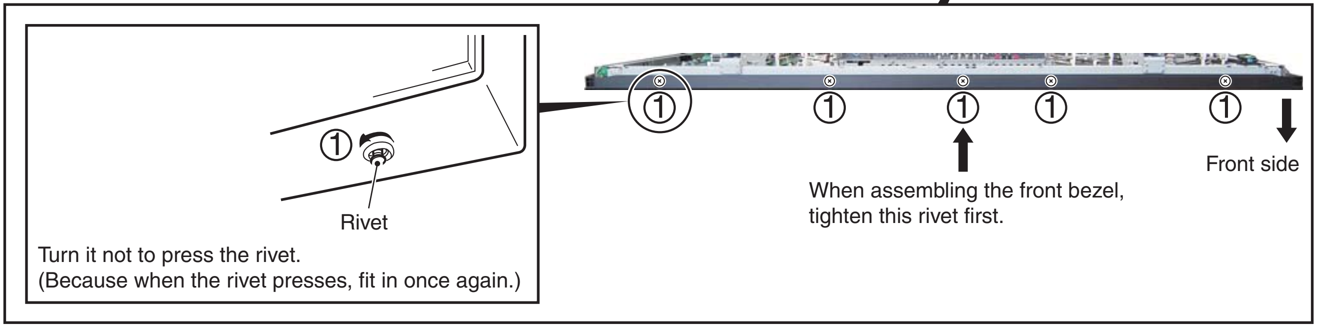
5 Front Bezel (609TVU)

① Remove the five rivets.

② Pull the lower part of the front bezel (609TVU) toward you and out.

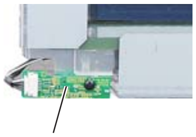
③ Remove the front bezel (609TVU), by pulling it upward.

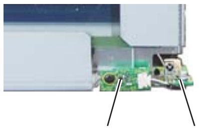

③
Front bezel (609TVU)
②


①
Rivet
① ① ① ① ①
Front side

Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)

When assembling the front bezel, tighten this rivet first.

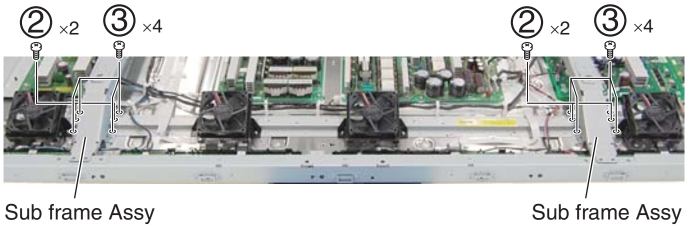



RLS Assy
IR Assy

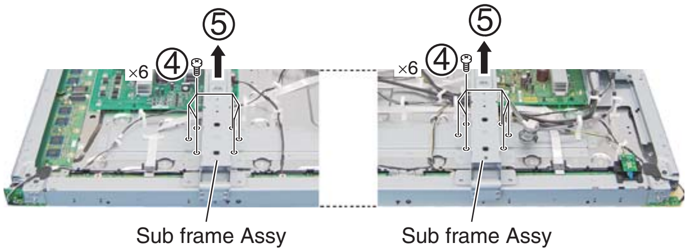
6 Access to ADDRESS L and S Assys

● Sub frame Assy

① Disconnect cables, connectors, as required.
② Remove the four screws. (AMZ30P060FTB)
③ Remove the eight screws. (TBZ40P060FTC)

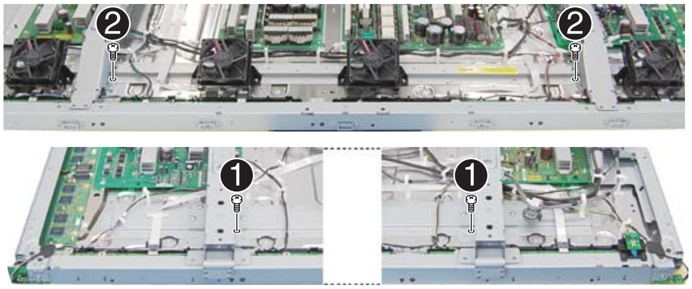

② ×2
③ ×4
② ×2
③ ×4
Sub frame Assy
Sub frame Assy

④ Remove the 12 screws. (TBZ40P060FTC)
⑤ Remove the two sub frame Assys.


⑤
×6 ④
⑤
×6 ④
Sub frame Assy
Sub frame Assy

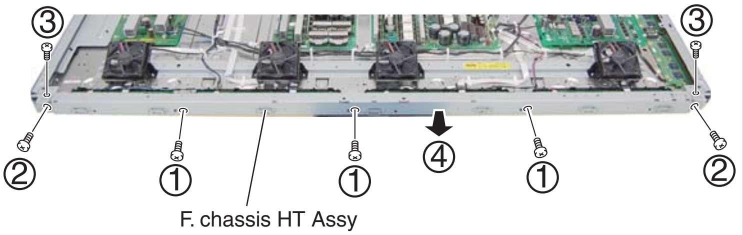
■ Screw tightening order

The other screws are random order.



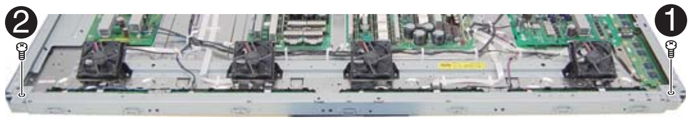
● F. Chassis HT Assy

① Remove the three screws. (APZ30P080FTB)
② Remove the two screws. (ABZ30P080FTC)
③ Remove the two screws. (AMZ30P060FTB)
④ Remove the F. chassis HT Assy.


③
③
②
①
①
④
①
②
F. chassis HT Assy

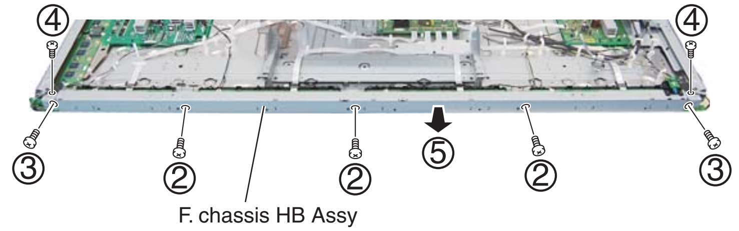
■ Screw tightening order

The other screws are random order.



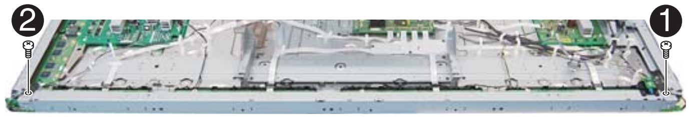
● F. Chassis HB Assy

① Disconnect cables, connectors, as required.
② Remove the three screws. (APZ30P080FTB)
③ Remove the two screws. (ABZ30P080FTC)
④ Remove the two screws. (AMZ30P060FTB)
⑤ Remove the F. chassis HB Assy.


④
④
③
②
②
⑤
②
③
F. chassis HB Assy

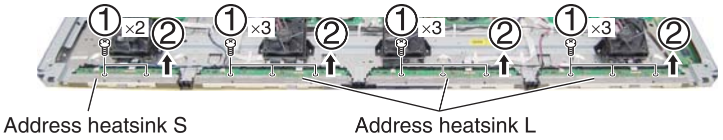
■ Screw tightening order

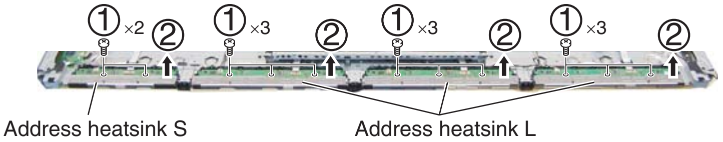
The other screws are random order.

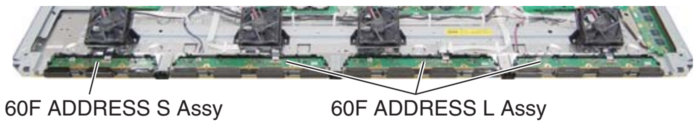


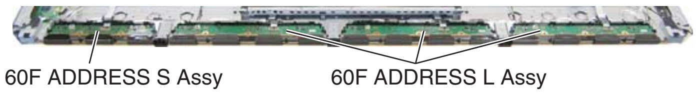
● Address heatsink S , L

① Remove the 22 screws. (ABA1351)
② Remove the two address heatsinks S and six address heatsinks L.


① ×2
②
① ×3
②
① ×3
②
① ×3
②
Address heatsink S
Address heatsink L


① ×2
②
① ×3
②
① ×3
②
① ×3
②
Address heatsink S
Address heatsink L


60F ADDRESS S Assy
60F ADDRESS L Assy


60F ADDRESS S Assy
60F ADDRESS L Assy

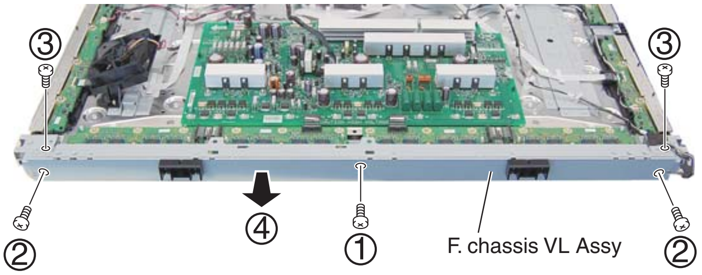
7 Access to SCAN A, B, C and D Assys

① Remove the one screw. (APZ30P080FTB)

② Remove the two screws. (ABZ30P080FTC)

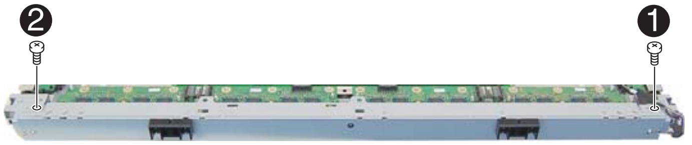
③ Remove the two screws. (AMZ30P060FTB)

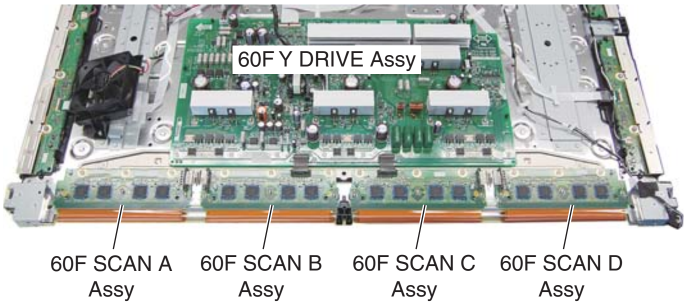
④ Remove the F. chassis VL Assy.


③
③
②
④
①
F. chassis VL Assy
②

Screw tightening order

The other screws are random order.




60F Y DRIVE Assy
60F SCAN A Assy
60F SCAN B Assy
60F SCAN C Assy
60F SCAN D Assy

7.3 PRECAUTIONS FOR SPEAKER SYSTEM

SERVICE PRECAUTIONS

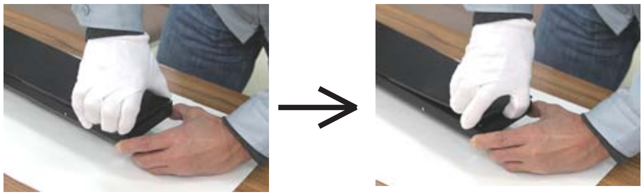
Be careful in handling this product, because scratches on cabinet coating are easily noticeable.
When working on this unit, be sure to place the cabinet on a piece of soft cloth for protection.

(1) Grille Assy

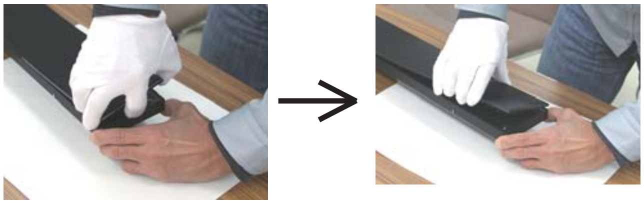
The Grille Assy is secured to the baffle plate with two-sided tape and bosses. When removing the Grille Assy, it is necessary to wear cotton gloves.

● Disassembly

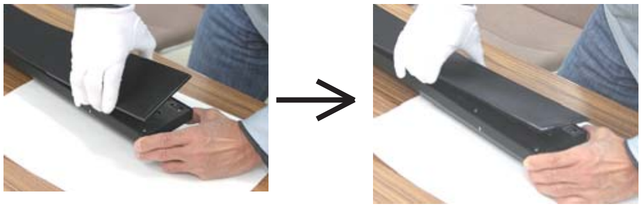
1. Insert the tip of your gloved finger into the gap between the Grille Assy in front and the corner of the baffle plate so that the Grille Assy is slightly lifted.



2. Insert the gloved finger to the extent of the second joint into the gap between the cabinet and the Grille Assy.

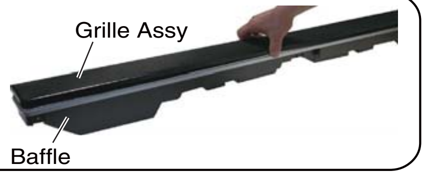


3. Alternately and gradually lift the left and right sides of the Grille Assy by about 5 cm, sliding gloved fingers along the cabinet. When lifting the Grille Assy, be sure to lift the left and right sides alternately, but not both sides simultaneously.

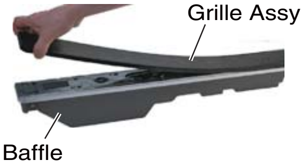


Note: Be careful not to bend the Grille Assy too far.
Otherwise, it may be damaged.
OK: Good example **NG:** Bad example

OK



NG



● Reassembly

Remove the old two-sided tape attached to the rear side of the Grille Assy and the front side of the baffle, and adhere new two-sided tape. Press the bosses into the baffle plate and press the entire grill into position.

(2) Woofer (Disassembly)

The woofer is secured to the baffle plate with four screws from the inside. To remove the woofer, first remove the baffle plate.

● Reassembly

When reassembling the woofer, place it so that its ⊕ terminal is suitable for the inside. Tighten the screws to the baffle.

(3) Tweeter (Disassembly)

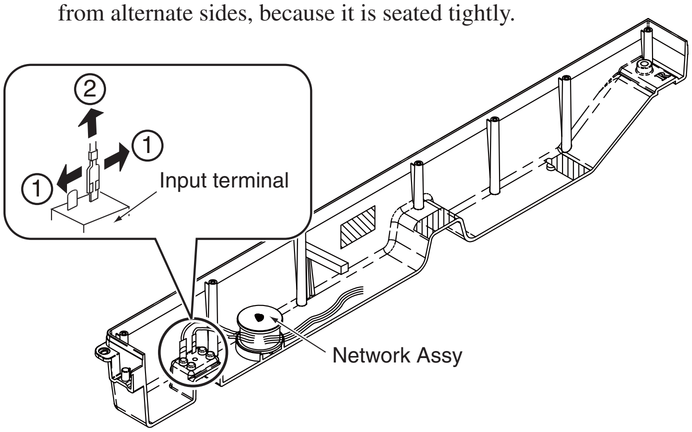
The tweeter is secured to the baffle plate with two screws from the inside. To remove the tweeter, first remove the baffle plate.

● Reassembly

When reassembling the tweeter, ⊕ terminal is in the topside.

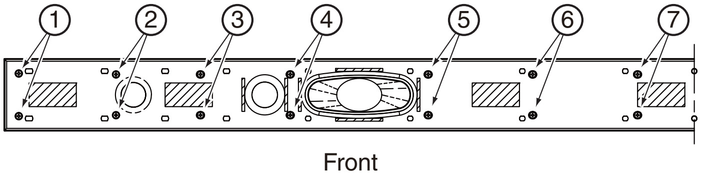
Network Assy (Caution)

When removing the Network Assy, pull it out a little at a time from alternate sides, because it is seated tightly.



Baffle Assy (Caution)

When reassembling the cabinet and the baffle plate, secure the screws in the order shown in the figure below:



8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	**Function Name**	**Part No.**
AWV2554	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC7301	EEPROM	BR24L02FV-W
		IC6001	System IC	BCM7404XKPB11G
		IC7004	EEPROM	BR24L64F-W
		IC6201	DDR SDRAM	EDD5116AFTA-5B-E
		IC6202	DDR SDRAM	EDD5116AFTA-5B-E
		IC6203	DDR SDRAM	EDD5116AFTA-5B-E
		IC6204	DDR SDRAM	EDD5116AFTA-5B-E
		IC6403	Flash ROM	AGC1082
		IC6701	Flash ROM	AGC1078
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1073
AWW2538	DIGITAL Assy	IC3302	Flash ROM	AGC1069
		IC3601	Flash UCOM	AGC1068
AWW1359	PC Assy	IC8802	EEPROM	BR24L01AFJ-W
AWV2540	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2541	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	**Function Name**	**Part No.**
AWV2554	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
		IC5501	Demodulator	MN884350
AWW1352	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	No adjustment is required after replacement of parts other than those shown in “8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED.
IO AUDIO Assy	No adjustment is required after replacement of parts other than those shown in “8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED.
DIGITAL Assy	No adjustment required
X DRIVE Assy	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	No adjustment required
PANEL SENSOR Assy	No adjustment required
Other assemblies	No adjustment required

8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the PANEL SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the PANEL SENSOR Assy to a new DIGITAL Assy.

Backed up data

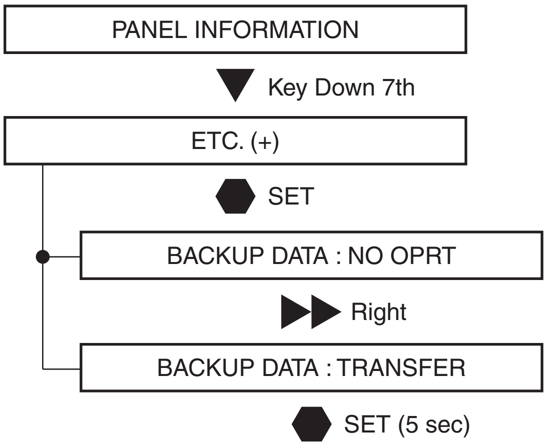
- Drive voltage adjustment value
- Panel white balance adjustment value
- Drive waveform adjustment value
- Hour-meter count
- Pulse-meter count
- P-ON counter value
- Serial No.
- PD/SD histories

How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the PANEL SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

(1) Copying, using the Factory menu
① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".
④ Copy the backup data, as shown in the figure below.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands
① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."
④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

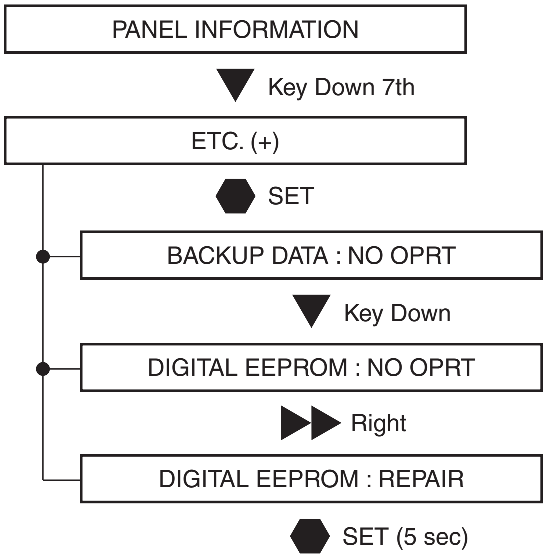
Note: If both the DIGITAL and PANEL SENSOR Assys are to be replaced, replace the PANEL SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

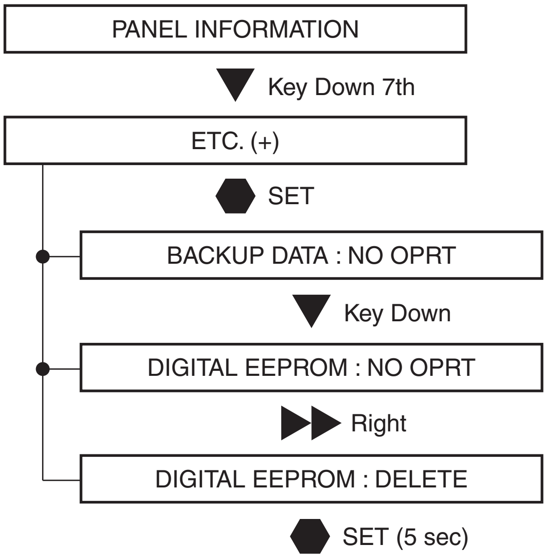
① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

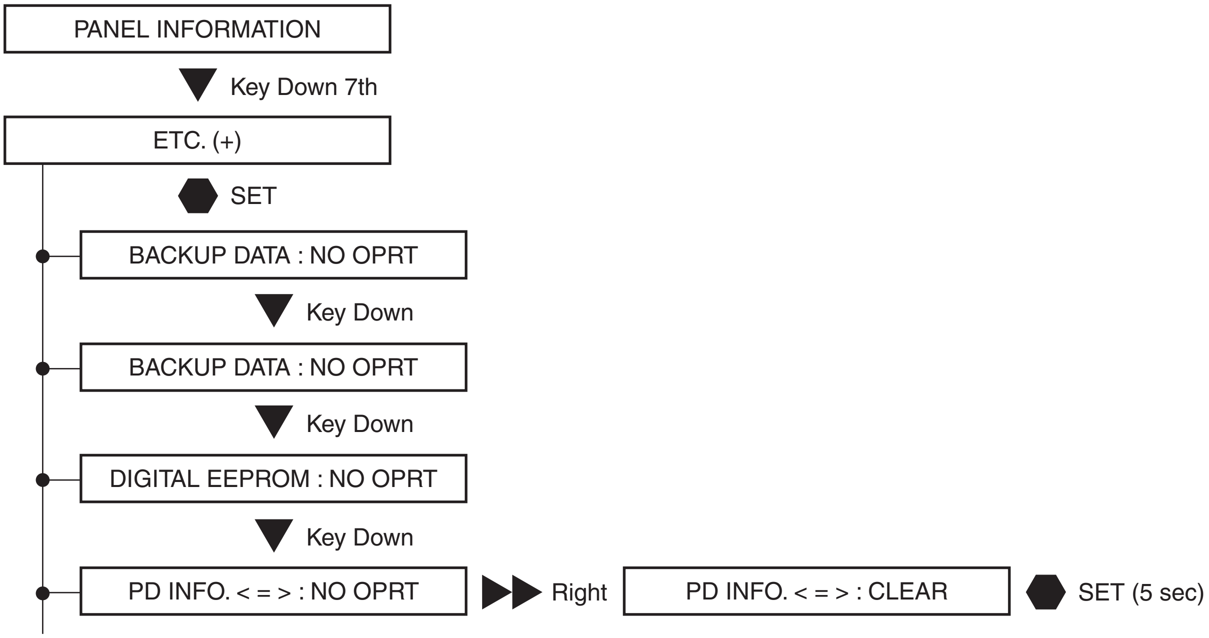
Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up.
Some of those data must be cleared after the Assys are replaced for service.
Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

Notes:
- As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
- After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu
① Turn on the power.
② Enter the Panel Factory mode.
③ Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



④ Turn off the power.

(2) Using the RS-232C commands
① Turn on the power.
② Issue the FAY command.
③ Issue the Delete command for a log you wish to clear.
④ Turn off the power.

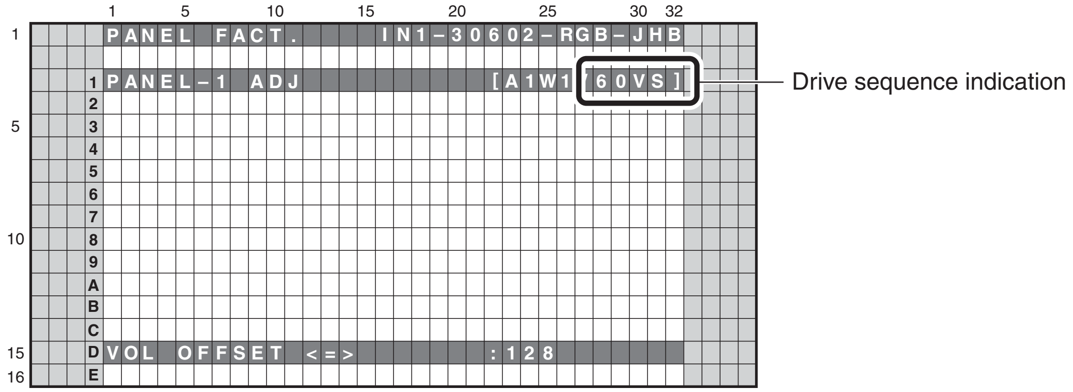
8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
∗2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



PANEL FACT. IN1-30602-RGB-JHB
PANEL-1 ADJ [A1W1 [60VS]
VOL OFFSET <=> :128

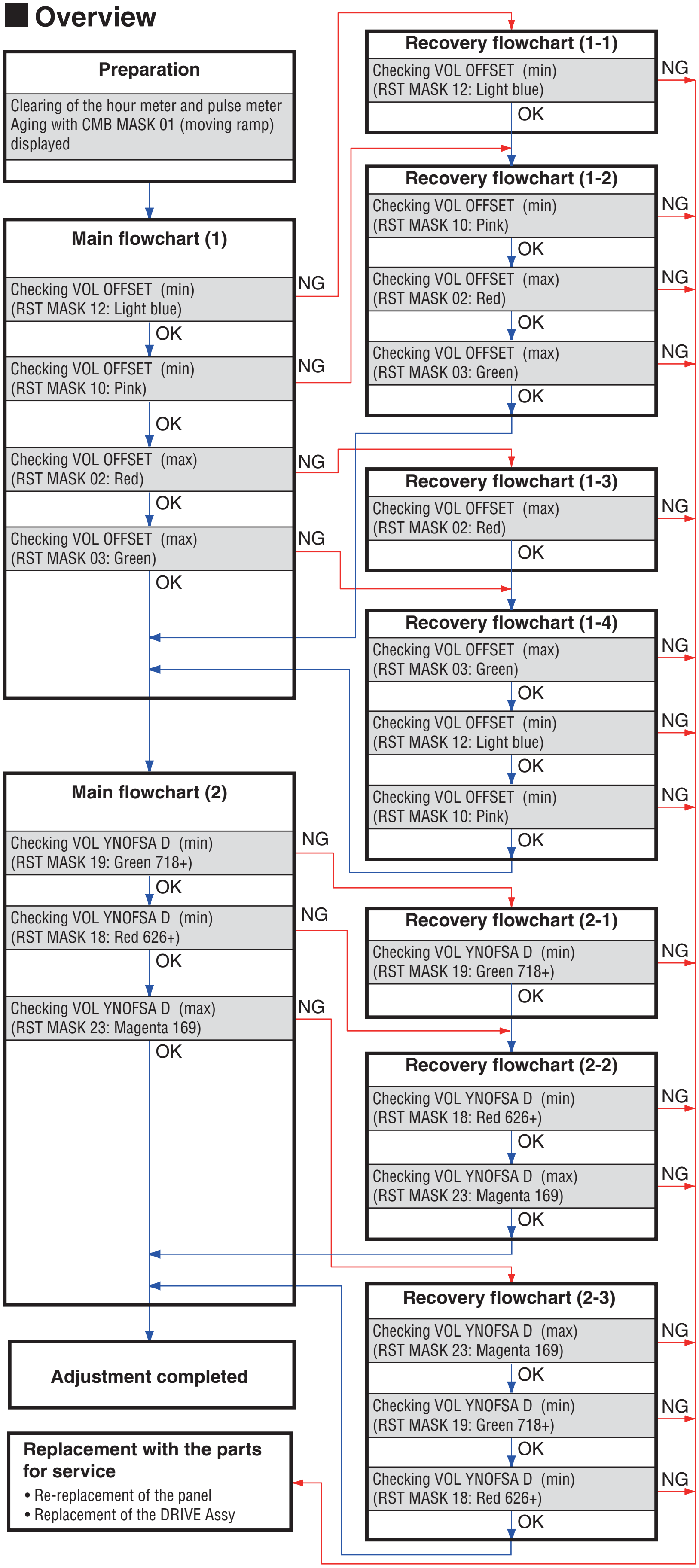
Drive sequence indication

Example of the On-Screen display during Panel Factory mode

[Supplement]

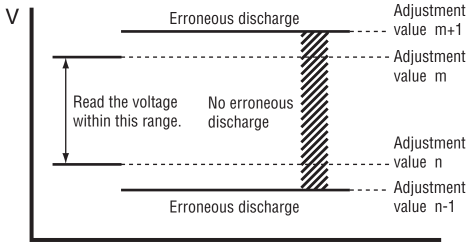
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview


Preparation
Clearing of the hour meter and pulse meter
Aging with CMB MASK 01 (moving ramp) displayed
Main flowchart (1)
Checking VOL OFFSET (min)
(RST MASK 12: Light blue)
OK
Checking VOL OFFSET (min)
(RST MASK 10: Pink)
OK
Checking VOL OFFSET (max)
(RST MASK 02: Red)
OK
Checking VOL OFFSET (max)
(RST MASK 03: Green)
OK
NG
NG
NG
NG
Main flowchart (2)
Checking VOL YNOFSA D (min)
(RST MASK 19: Green 718+)
OK
Checking VOL YNOFSA D (min)
(RST MASK 18: Red 626+)
OK
Checking VOL YNOFSA D (max)
(RST MASK 23: Magenta 169)
OK
NG
NG
NG
Adjustment completed
Replacement with the parts for service
• Re-replacement of the panel
• Replacement of the DRIVE Assy
Recovery flowchart (1-1)
Checking VOL OFFSET (min)
(RST MASK 12: Light blue)
NG
OK
Recovery flowchart (1-2)
Checking VOL OFFSET (min)
(RST MASK 10: Pink)
NG
OK
Checking VOL OFFSET (max)
(RST MASK 02: Red)
NG
OK
Checking VOL OFFSET (max)
(RST MASK 03: Green)
NG
OK
Recovery flowchart (1-3)
Checking VOL OFFSET (max)
(RST MASK 02: Red)
NG
OK
Recovery flowchart (1-4)
Checking VOL OFFSET (max)
(RST MASK 03: Green)
NG
OK
Checking VOL OFFSET (min)
(RST MASK 12: Light blue)
NG
OK
Checking VOL OFFSET (min)
(RST MASK 10: Pink)
NG
OK
Recovery flowchart (2-1)
Checking VOL YNOFSA D (min)
(RST MASK 19: Green 718+)
NG
OK
Recovery flowchart (2-2)
Checking VOL YNOFSA D (min)
(RST MASK 18: Red 626+)
NG
OK
Checking VOL YNOFSA D (max)
(RST MASK 23: Magenta 169)
NG
OK
Recovery flowchart (2-3)
Checking VOL YNOFSA D (max)
(RST MASK 23: Magenta 169)
NG
OK
Checking VOL YNOFSA D (min)
(RST MASK 19: Green 718+)
NG
OK
Checking VOL YNOFSA D (min)
(RST MASK 18: Red 626+)
NG
OK

Range of margin measuring

Read the voltage within the hysteresis (stricter value).


V
Erroneous discharge
Adjustment value m+1
Adjustment value m
Read the voltage within this range.
No erroneous discharge
Adjustment value n
Adjustment value n-1
Erroneous discharge

Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence /Dither: ON, L dither: ON, noise: OFF

Red	RST MASK 02 (R 1023 /G 0 /B 0)
Green	RST MASK 03 (R 0 /G 1023 /B 0)
Pink	RST MASK 10 (R 908 /G 718 /B 908)
Light blue	RST MASK 12 (R 447 /G 812 /B 812)
Red 626+	RST MASK 18 (R 626 /G 120 /B 120)
Green 718+	RST MASK 19 (R 120 /G 718 /B 120)
Magenta 169	RST MASK 23 (R 169 /G 0 /B 169)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

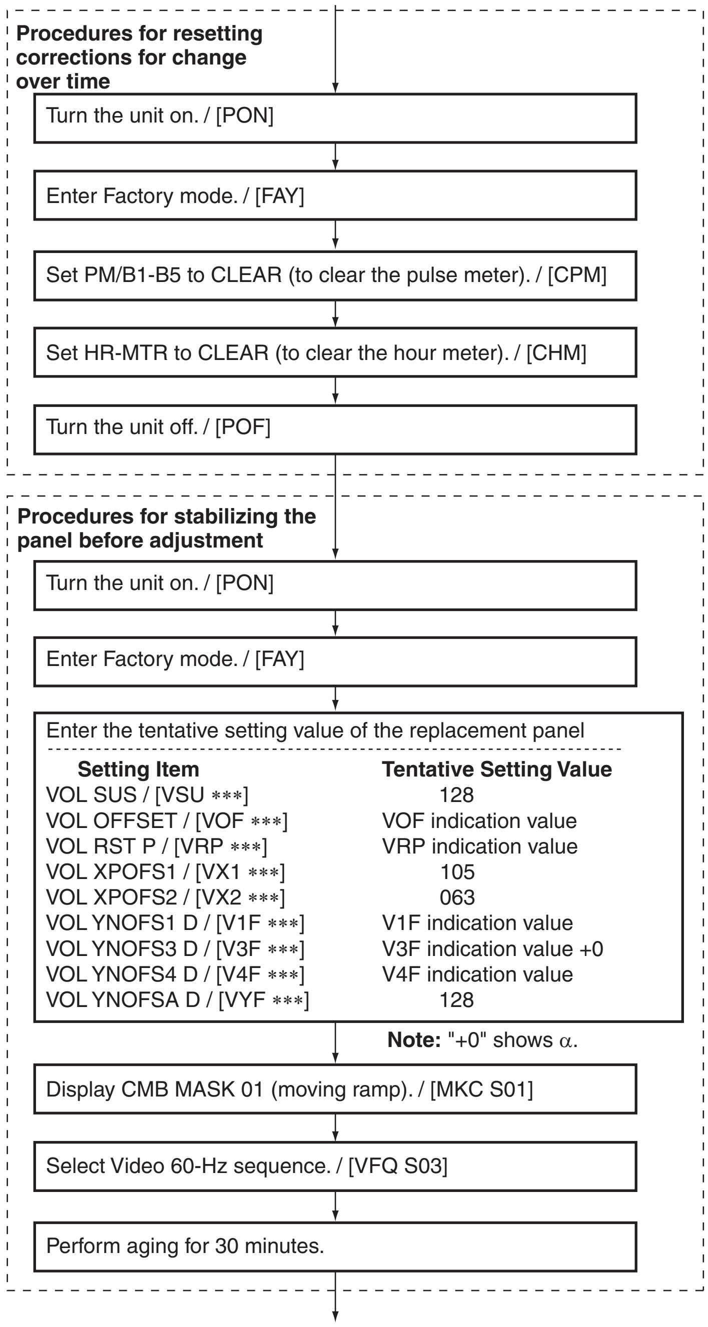
Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

Preparation before adjustment

[Replacement with the panel for service is completed.]



Procedures for resetting corrections for change over time

- Turn the unit on. / [PON]
- Enter Factory mode. / [FAY]
- Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]
- Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]
- Turn the unit off. / [POF]

∗ To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Procedures for stabilizing the panel before adjustment

- Turn the unit on. / [PON]
- Enter Factory mode. / [FAY]
- Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ∗∗∗]	128
VOL OFFSET / [VOF ∗∗∗]	VOF indication value
VOL RST P / [VRP ∗∗∗]	VRP indication value
VOL XPOFS1 / [VX1 ∗∗∗]	105
VOL XPOFS2 / [VX2 ∗∗∗]	063
VOL YNOFS1 D / [V1F ∗∗∗]	V1F indication value
VOL YNOFS3 D / [V3F ∗∗∗]	V3F indication value +0
VOL YNOFS4 D / [V4F ∗∗∗]	V4F indication value
VOL YNOFSA D / [VYF ∗∗∗]	128

Note: "+0" shows α.

- Display CMB MASK 01 (moving ramp). / [MKC S01]
- Select Video 60-Hz sequence. / [VFQ S03]
- Perform aging for 30 minutes.

[To the Main flowchart (1)]

Indication example of the adjustment label of service panel

AWU1287 Data **VOF=068**
VRP=018 **V1F=086** **V3F=096+α**
V4F=143 **Hour Meter__________H**
Data 08/02/28 Chassis CXX99999
Time 18:27 Pnl FTEST123456

Note: The symbol "α" denotes the adjustment value plus 0.

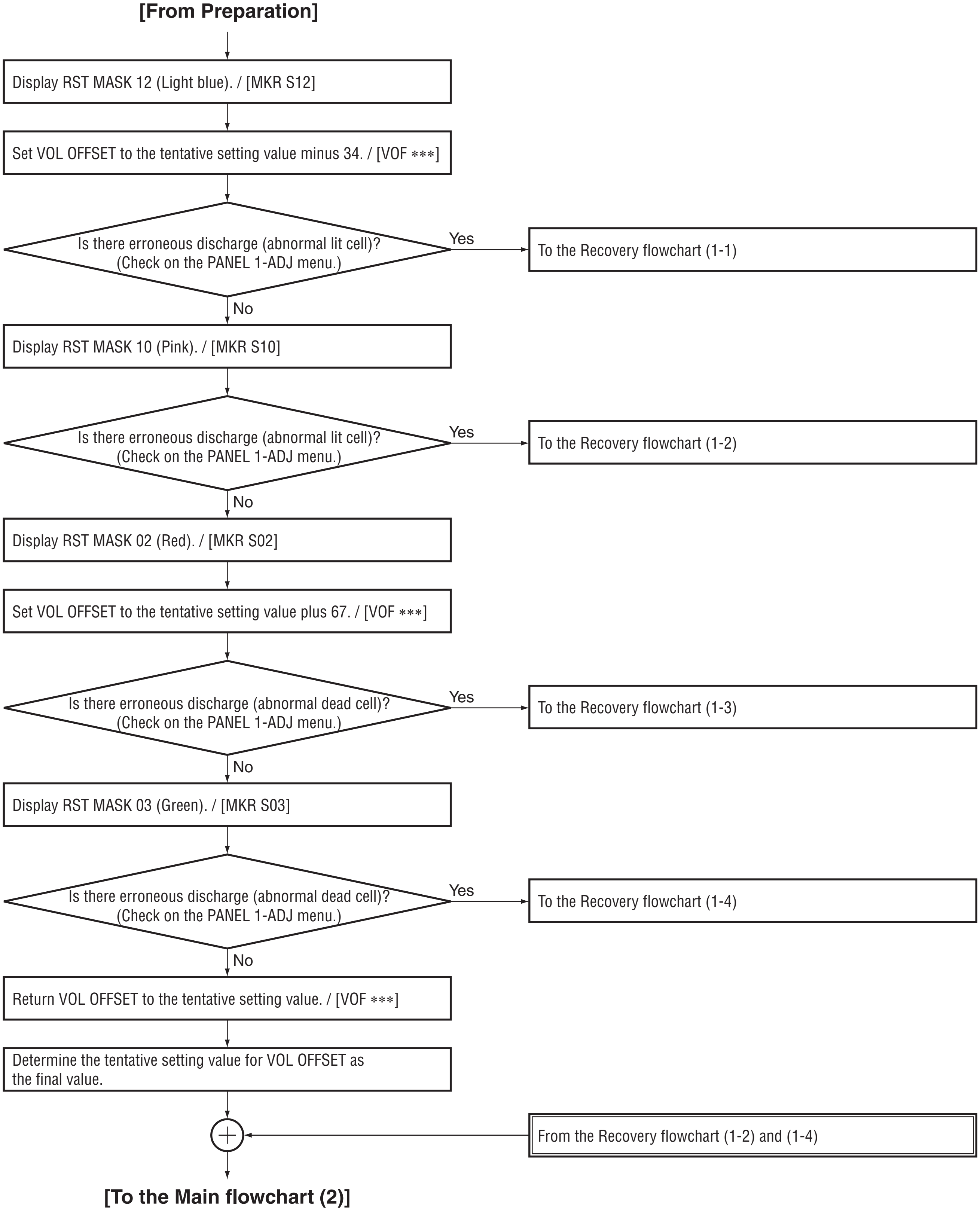
∗ Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

∗ To store the VFQ S03 command in memory, transmit it after displaying the mask.

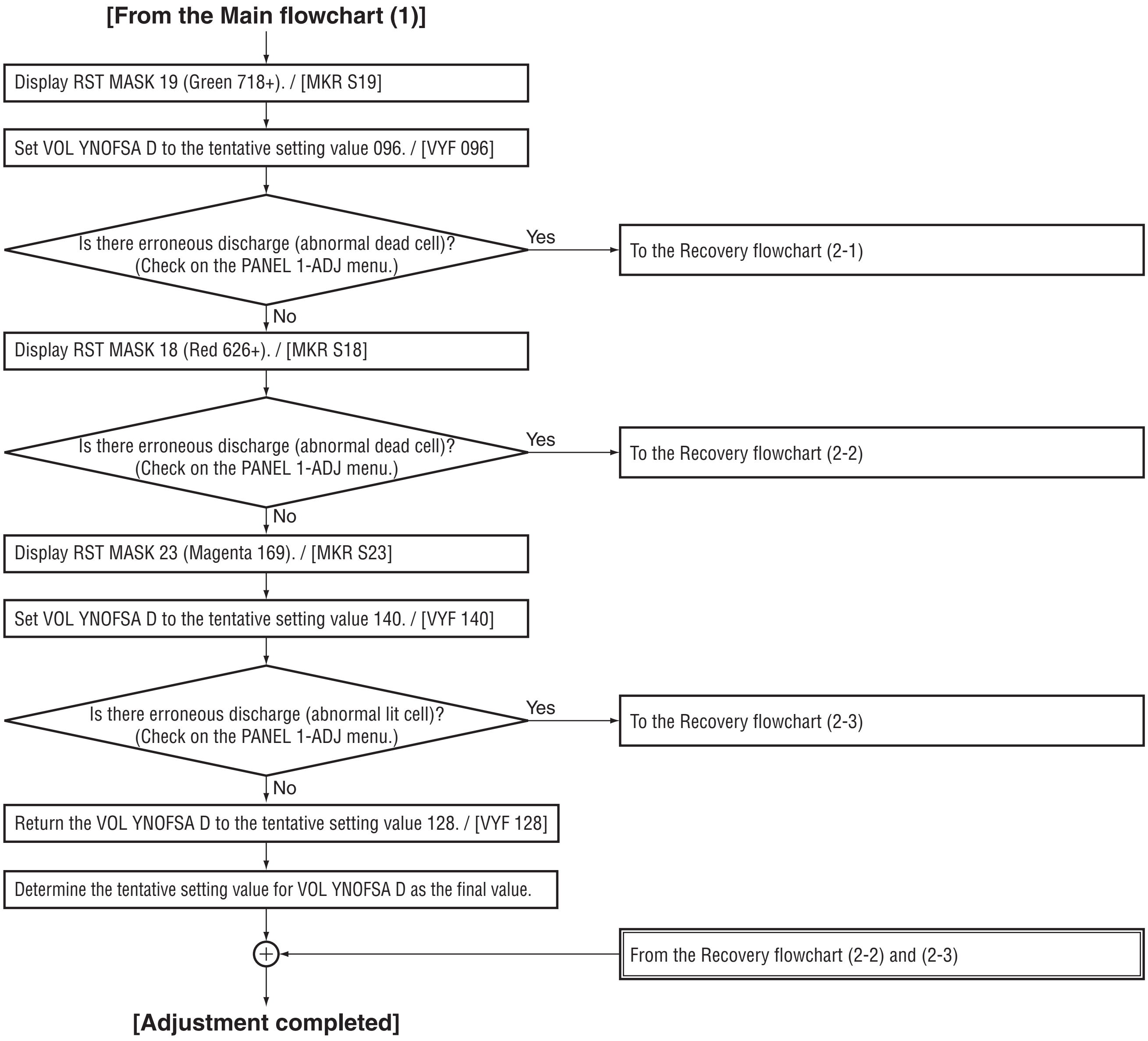
Note:
* When you perform the adjustment with RS232C commands, issue the following commands in addition.
* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[$1800000001]	: LUT mode ON

Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 12 (Light blue). / [MKR S12]
Set VOL OFFSET to the tentative setting value minus 34. / [VOF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (Pink). / [MKR S10]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-2)
No
Display RST MASK 02 (Red). / [MKR S02]
Set VOL OFFSET to the tentative setting value plus 67. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-3)
No
Display RST MASK 03 (Green). / [MKR S03]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-4)
No
Return VOL OFFSET to the tentative setting value. / [VOF ***]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-2) and (1-4)
[To the Main flowchart (2)]

Main flowchart (2)...Checking VOL YNOFSA D

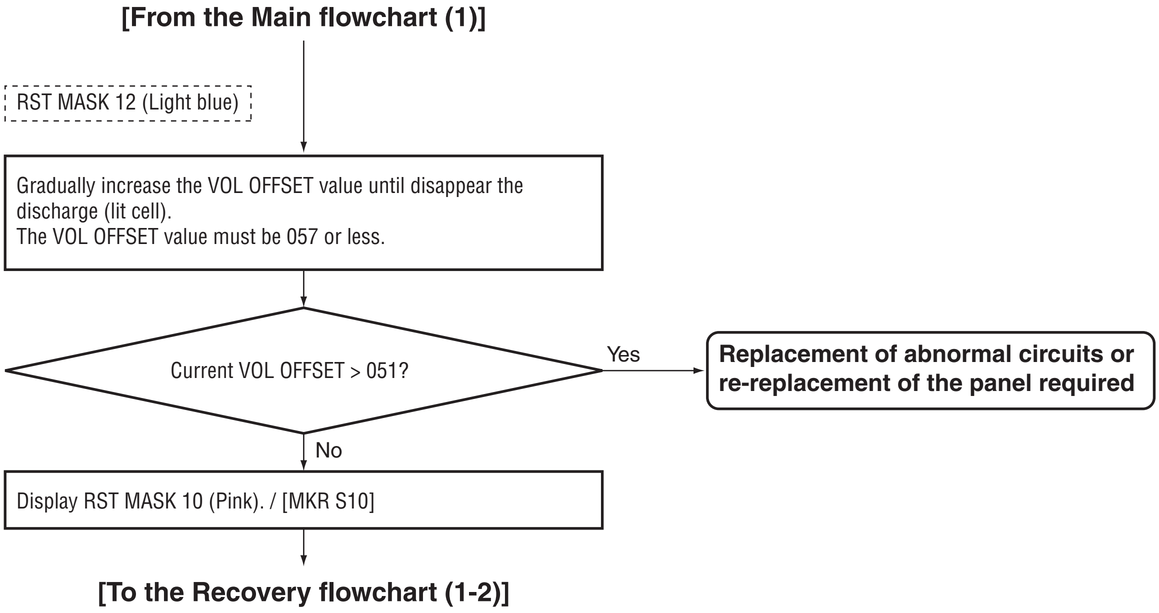

[From the Main flowchart (1)]
Display RST MASK 19 (Green 718+). / [MKR S19]
Set VOL YNOFSA D to the tentative setting value 096. / [VYF 096]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Display RST MASK 18 (Red 626+). / [MKR S18]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-2)
No
Display RST MASK 23 (Magenta 169). / [MKR S23]
Set VOL YNOFSA D to the tentative setting value 140. / [VYF 140]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-3)
No
Return the VOL YNOFSA D to the tentative setting value 128. / [VYF 128]
Determine the tentative setting value for VOL YNOFSA D as the final value.
From the Recovery flowchart (2-2) and (2-3)
[Adjustment completed]

Note:
Make sure that the following values become the final setting values.

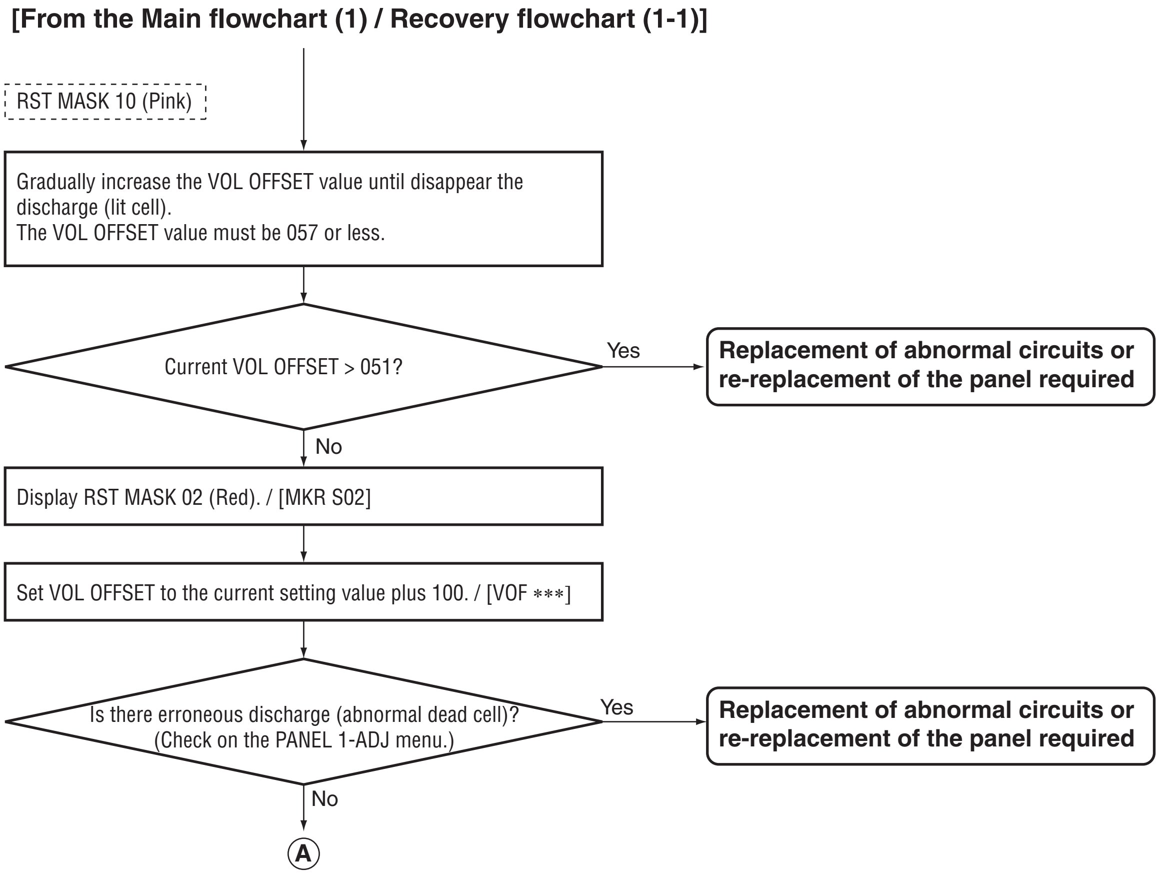
VOL SUS *1
VOL OFFSET
VOL RST P *1
VOL XPOFS1 *1
VOL XPOSF2 *1
VOL YNOFS1 D *1
VOL YNOFS3 D *1
VOL YNOFS4 D *1
VOL YNOFS4 A

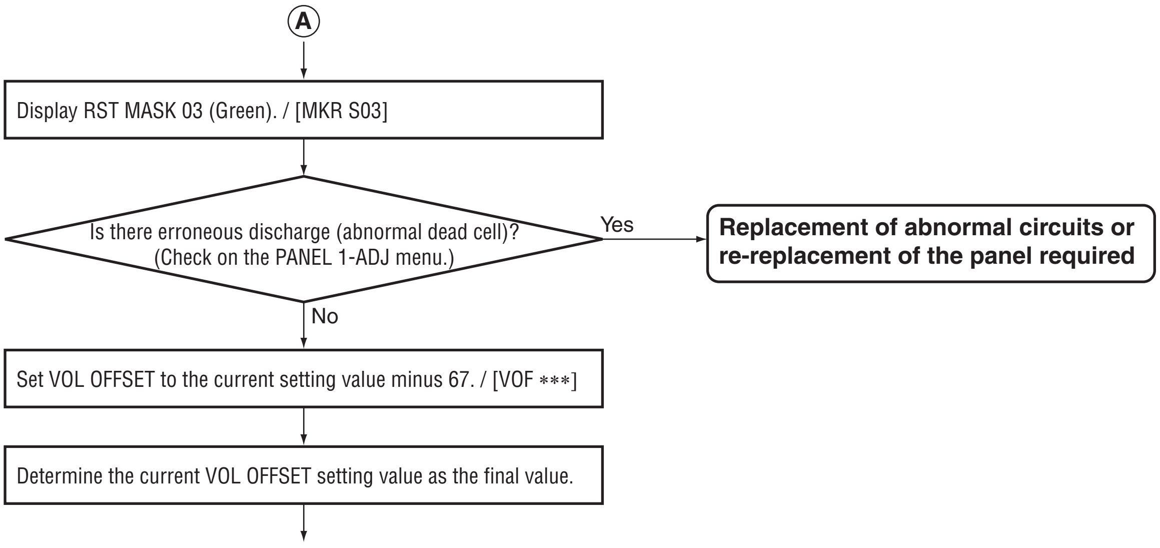
*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting


[From the Main flowchart (1)]
RST MASK 12 (Light blue)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 057 or less.
Current VOL OFFSET > 051?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 10 (Pink). / [MKR S10]
[To the Recovery flowchart (1-2)]

Recovery flowchart (1-2)...Changing the VOL OFFSET setting

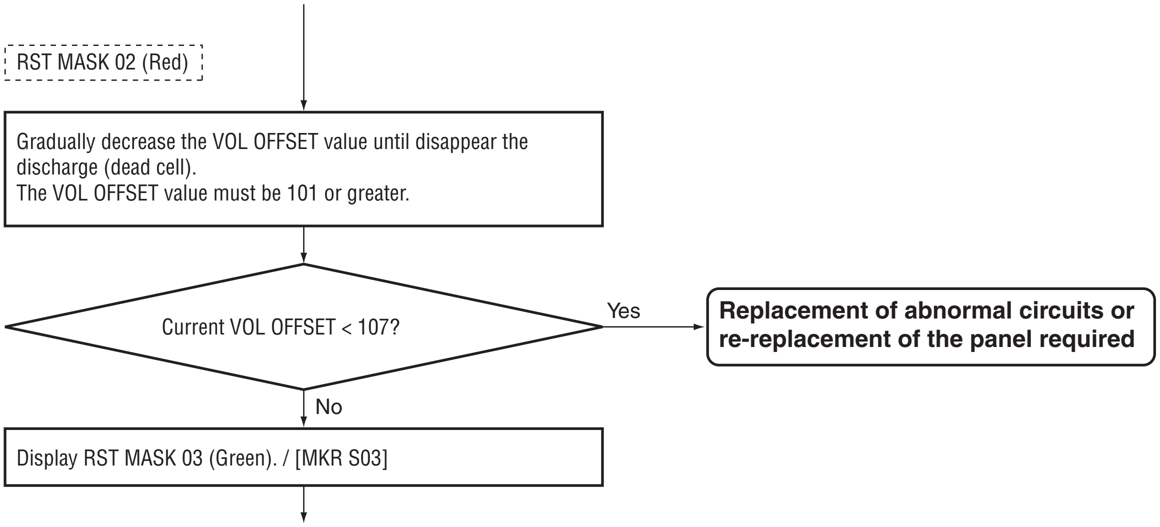

[From the Main flowchart (1) / Recovery flowchart (1-1)]
RST MASK 10 (Pink)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 057 or less.
Current VOL OFFSET > 051?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 02 (Red). / [MKR S02]
Set VOL OFFSET to the current setting value plus 100. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
A


A
Display RST MASK 03 (Green). / [MKR S03]
Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL OFFSET to the current setting value minus 67. / [VOF ***]
Determine the current VOL OFFSET setting value as the final value.

[To the Main flowchart (1)]

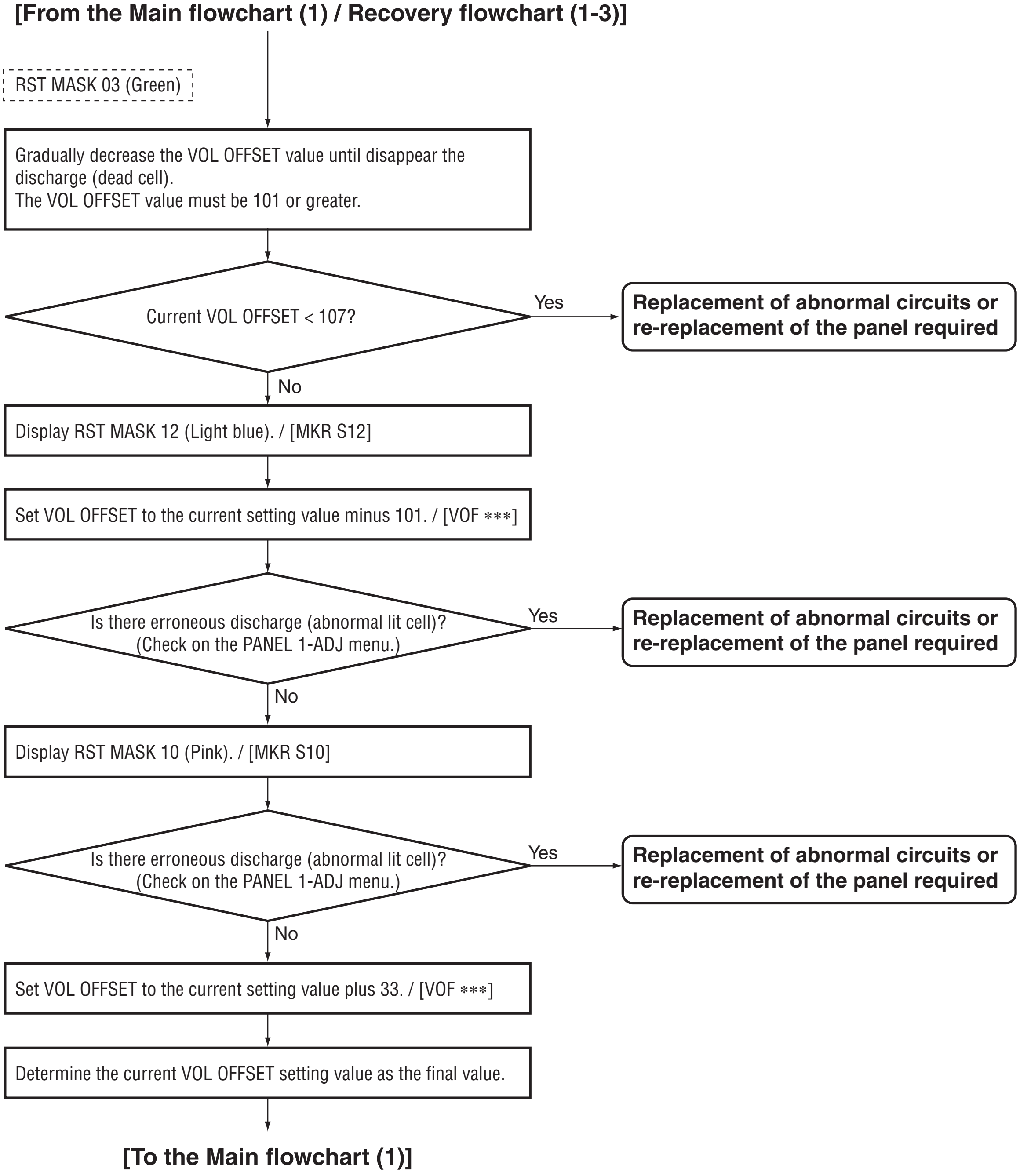
Recovery flowchart (1-3)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]


RST MASK 02 (Red)
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 101 or greater.
Current VOL OFFSET < 107?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 03 (Green). / [MKR S03]

[To the Recovery flowchart (1-4)]

Recovery flowchart (1-4)...Changing the VOL OFFSET setting



[From the Main flowchart (1) / Recovery flowchart (1-3)]

RST MASK 03 (Green)

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 101 or greater.

Current VOL OFFSET < 107?

Replacement of abnormal circuits or re-replacement of the panel required

Display RST MASK 12 (Light blue). / [MKR S12]

Set VOL OFFSET to the current setting value minus 101. / [VOF ∗∗∗]

Is there erroneous discharge (abnormal lit cell)?
(Check on the PANEL 1-ADJ menu.)

Replacement of abnormal circuits or re-replacement of the panel required

Display RST MASK 10 (Pink). / [MKR S10]

Is there erroneous discharge (abnormal lit cell)?
(Check on the PANEL 1-ADJ menu.)

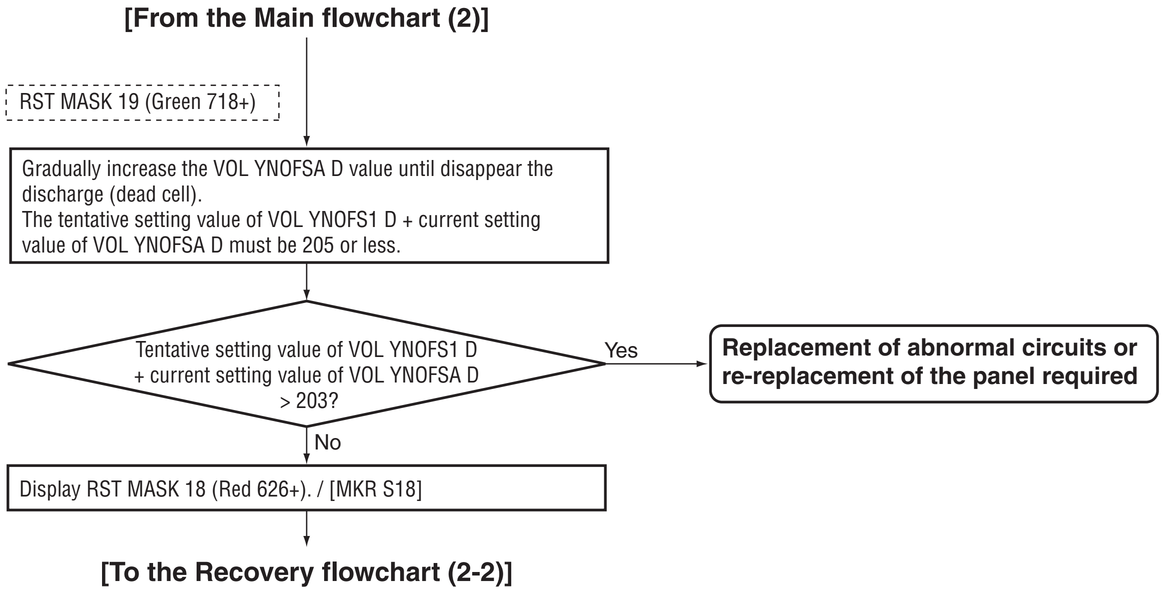
Replacement of abnormal circuits or re-replacement of the panel required

Set VOL OFFSET to the current setting value plus 33. / [VOF ∗∗∗]

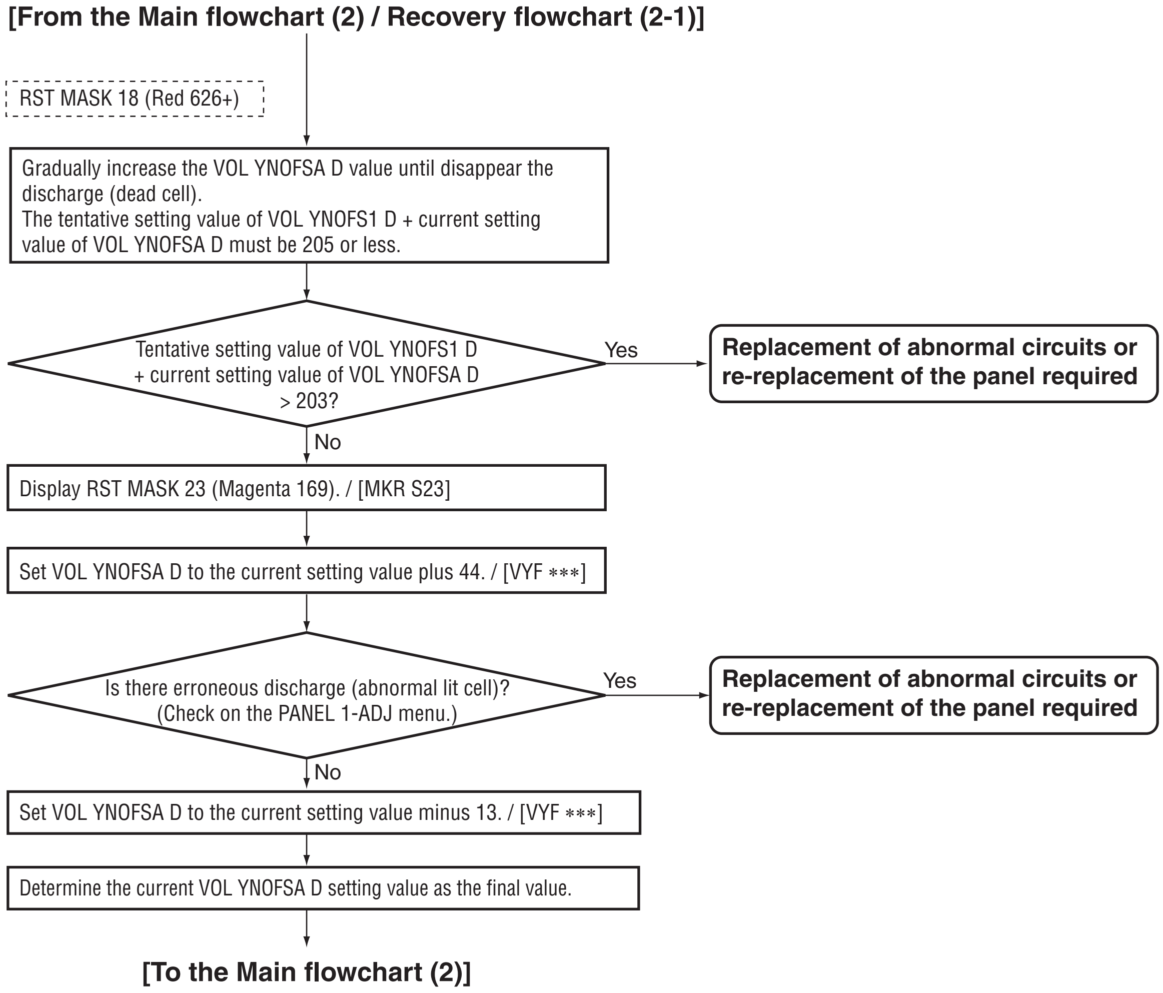
Determine the current VOL OFFSET setting value as the final value.

[To the Main flowchart (1)]

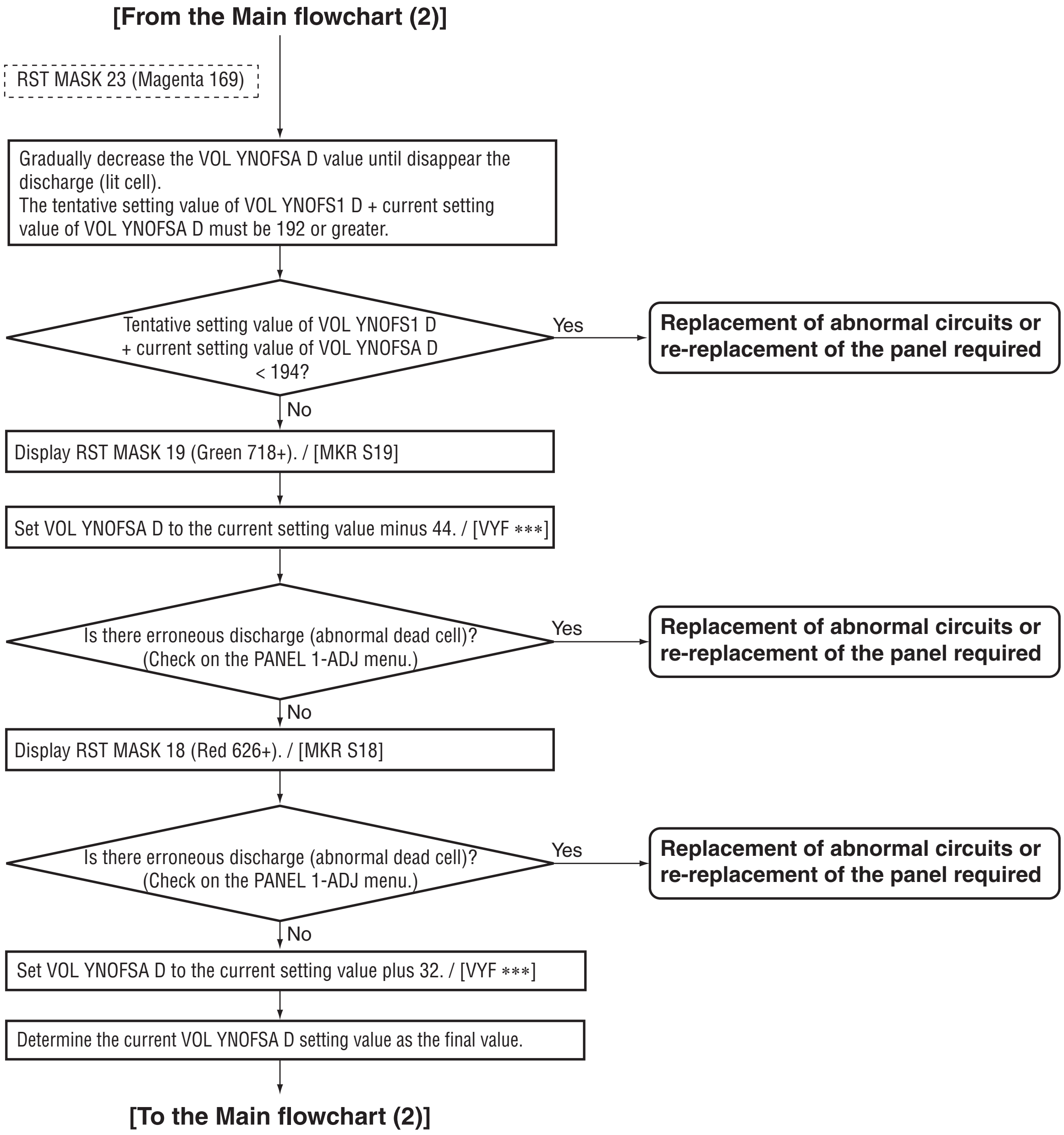
Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2)]
RST MASK 19 (Green 718+)
Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D > 203?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 18 (Red 626+). / [MKR S18]
[To the Recovery flowchart (2-2)]

Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2) / Recovery flowchart (2-1)]
RST MASK 18 (Red 626+)
Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D > 203?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 23 (Magenta 169). / [MKR S23]
Set VOL YNOFSA D to the current setting value plus 44. / [VYF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL YNOFSA D to the current setting value minus 13. / [VYF ***]
Determine the current VOL YNOFSA D setting value as the final value.
[To the Main flowchart (2)]

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2)]
RST MASK 23 (Magenta 169)
Gradually decrease the VOL YNOFSA D value until disappear the discharge (lit cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 192 or greater.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D < 194?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 19 (Green 718+). / [MKR S19]
Set VOL YNOFSA D to the current setting value minus 44. / [VYF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 18 (Red 626+). / [MKR S18]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL YNOFSA D to the current setting value plus 32. / [VYF ***]
Determine the current VOL YNOFSA D setting value as the final value.
[To the Main flowchart (2)]

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

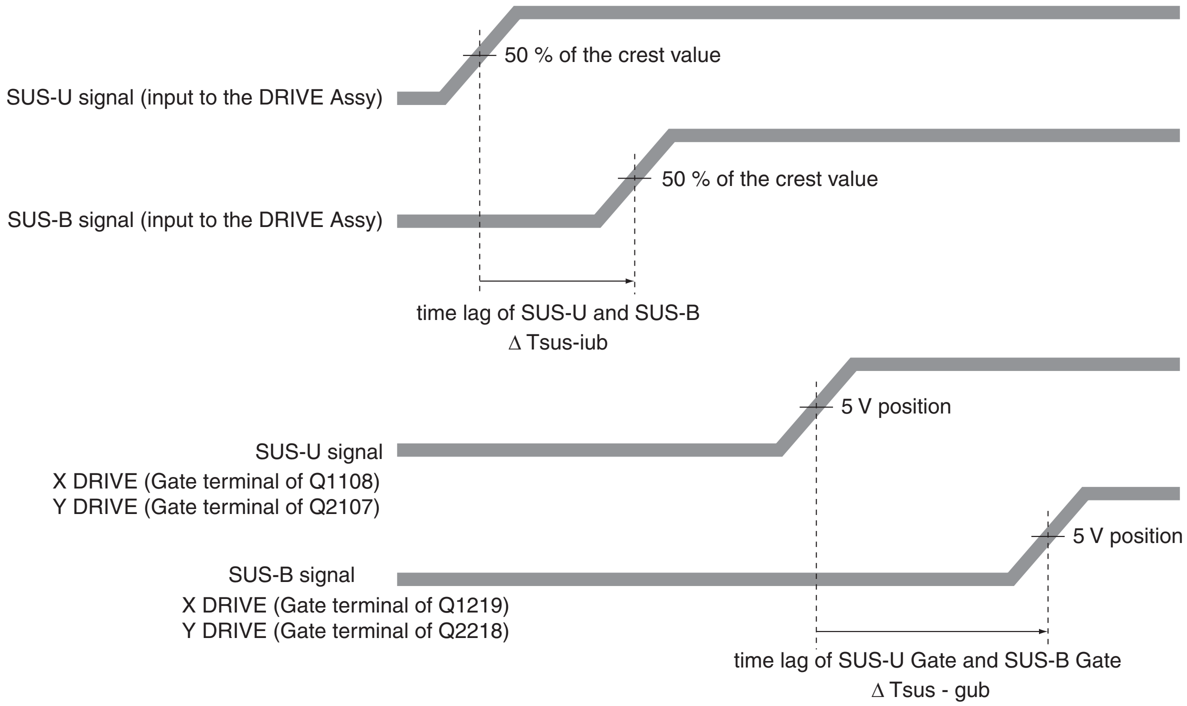
■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B Gate signal to the SUS-U Gate siganl.
Adjust the variable control so that the time lag of Gate becomes " time lag of input signal + α ± 5 nsec."

Note: • Be sure to set the Drive to OFF for adjustment.
• For details on measuring points of waveform, see the figure below.


50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U signal
X DRIVE (Gate terminal of Q1108)
Y DRIVE (Gate terminal of Q2107)
5 V position
SUS-B signal
X DRIVE (Gate terminal of Q1219)
Y DRIVE (Gate terminal of Q2218)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

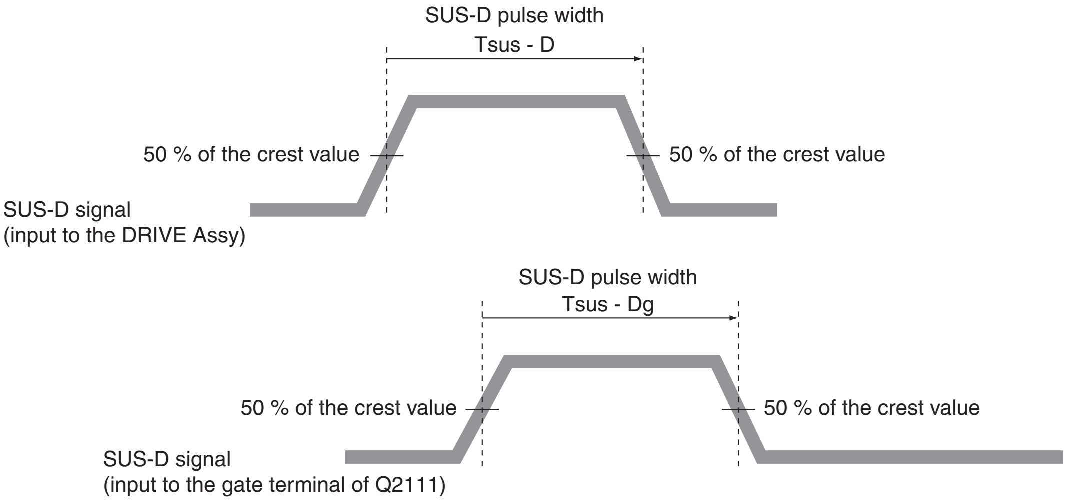
Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + α ± 5 nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: • For details on measuring points of waveform, see the figure below.

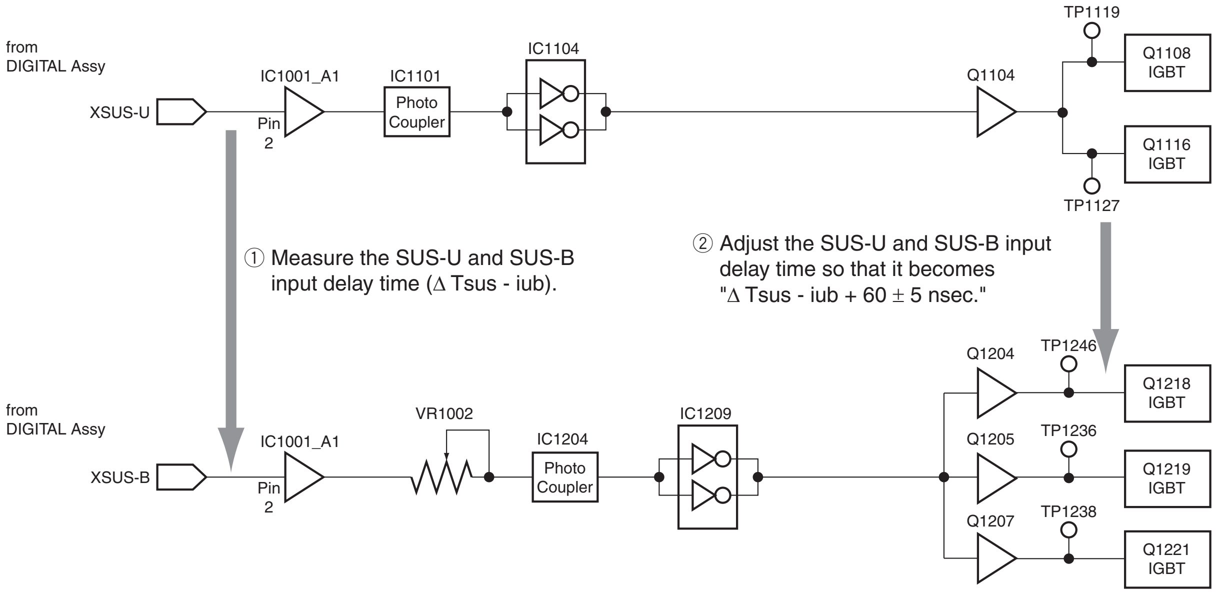

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2111)

SUS-D pulse width: Tsus - Dg
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

Assy	VR
Y DRIVE Assy	VR2001

SUS-B ADJUSTMENT

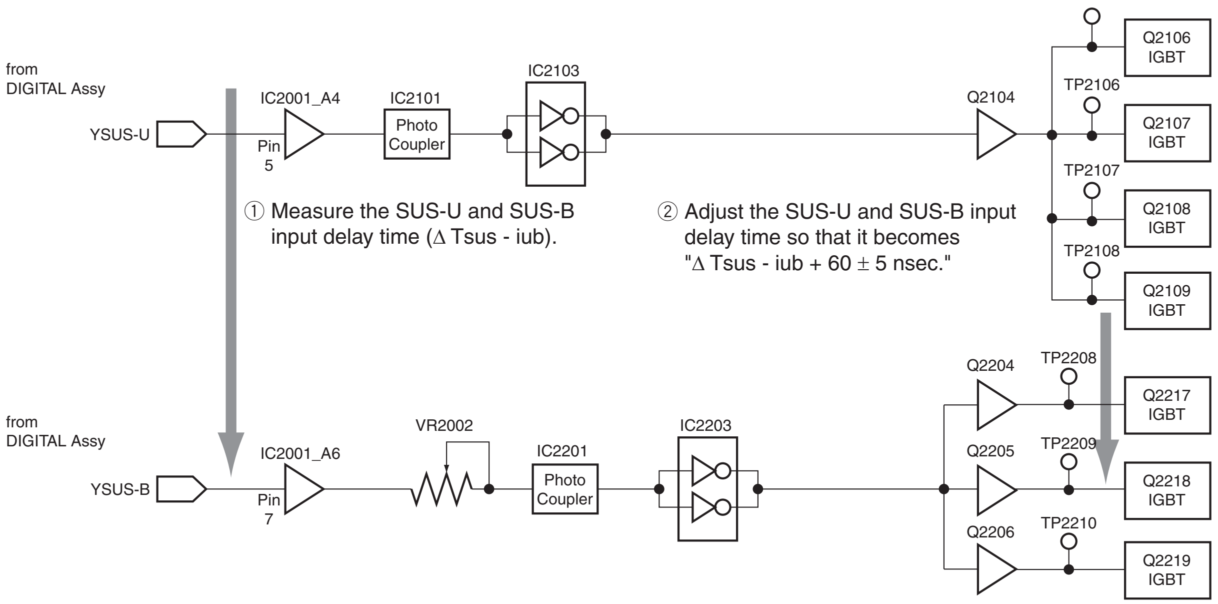
X DRIVE Assy


from
DIGITAL Assy
XSUS-U
IC1001_A1
Pin
2
IC1101
Photo
Coupler
IC1104
Q1104
TP1119
Q1108
IGBT
Q1116
IGBT
TP1127
from
DIGITAL Assy
XSUS-B
IC1001_A1
Pin
2
VR1002
IC1204
Photo
Coupler
IC1209
Q1204
TP1246
Q1218
IGBT
Q1205
TP1236
Q1219
IGBT
Q1207
TP1238
Q1221
IGBT

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 60 ± 5 nsec."

Y DRIVE Assy


TP2105
Q2106
IGBT
from
DIGITAL Assy
YSUS-U
IC2001_A4
Pin
5
IC2101
Photo
Coupler
IC2103
Q2104
TP2106
Q2107
IGBT
TP2107
Q2108
IGBT
TP2108
Q2109
IGBT
from
DIGITAL Assy
YSUS-B
IC2001_A6
Pin
7
VR2002
IC2201
Photo
Coupler
IC2203
Q2204
TP2208
Q2217
IGBT
Q2205
TP2209
Q2218
IGBT
Q2206
TP2210
Q2219
IGBT

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

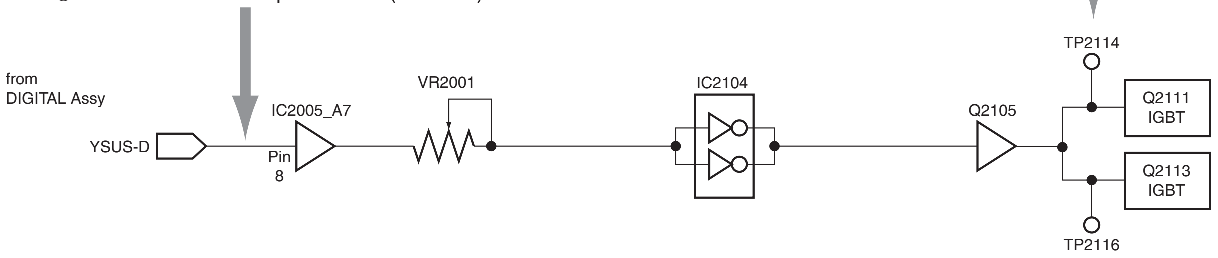
② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 60 ± 5 nsec."

SUS-D ADJUSTMENT

Y DRIVE Assy

② Adjust the pulse width (Tsus - Dg) of the SUS-D input signal so that it becomes "Tsus-D ± 5 nsec."

① Measure the SUS-D pulse width (Tsus - D).


TP2114
from
DIGITAL Assy
YSUS-D
IC2005_A7
Pin
8
VR2001
IC2104
Q2105
Q2111
IGBT
Q2113
IGBT
TP2116

8.6 HOW TO UPDATE USB

Preparation

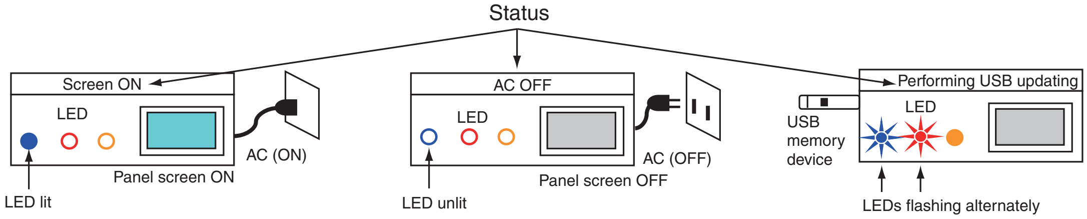
Expand the image-file folder for USB updating in the root directory of the USB memory device.

Example: Folder construction after expansion in the root directory of the USB memory device

(With the nonencrypted folder)	[update] ├ boot.img ├ update.ctl ├ update.iso └ update.lst
(With the encrypted folder)	[update] ├ boot.img ├ update.ctl ├ update.enc ├ update.key └ update.lst

An encrypted image-file folder for USB updating will be released for general users.

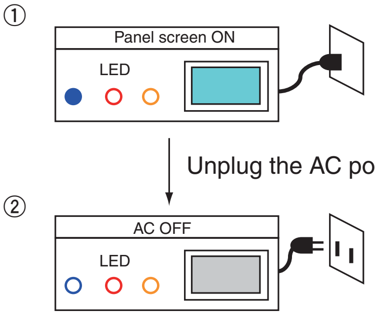
Description of the figures


Status
Screen ON
LED
AC (ON)
Panel screen ON
LED lit
AC OFF
LED
AC (OFF)
Panel screen OFF
LED unlit
Performing USB updating
LED
USB memory device
LEDs flashing alternately

Procedures

1. Setting before USB updating

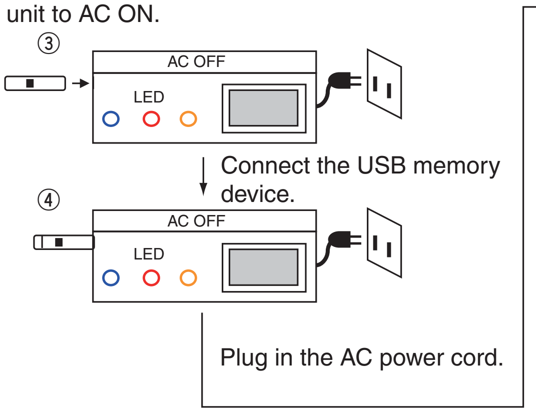
Change the power status of the Panel from Screen ON to AC OFF.


①
Panel screen ON
LED
②
AC OFF
LED

Unplug the AC power cord.

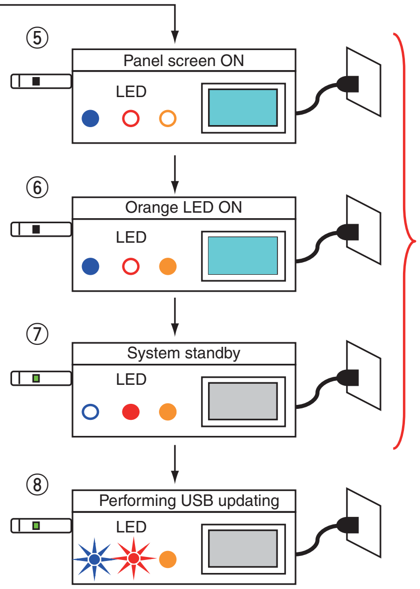
2. Performing USB updating

Connect the USB memory device then set the unit to AC ON.


③
AC OFF
LED
④
AC OFF
LED

Connect the USB memory device.

Plug in the AC power cord.


⑤
Panel screen ON
LED
⑥
Orange LED ON
LED
⑦
System standby
LED
⑧
Performing USB updating
LED

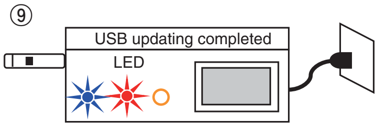
NEVER use the remote control unit.
(Especially DO NOT use the Power key.)

If you use any key on the remote control unit in Steps 5 and 7:
If the unit does not shift to Step 8, disconnect the USB memory device then try the procedures from the beginning.
If the unit shifts to Step 8, continue the updating procedures as described.

3. Completion procedures for USB updating

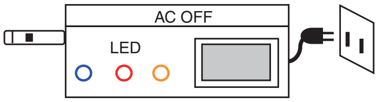
After USB updating is completed, perform the following steps (unplug the AC power cord, disconnect the USB memory device, then plug the AC power cord back in).

⑨



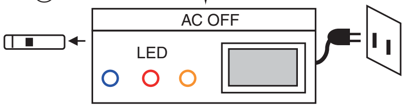
Unplug the AC power cord.

⑩



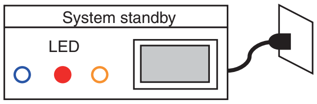
Disconnect the USB memory device.

⑪



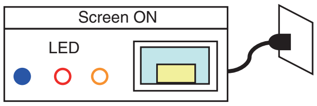
Plug in the AC power cord.

⑫



Turn the unit on, using the Power key on the remote control unit

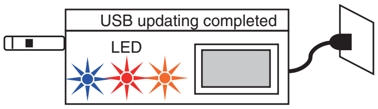
⑬



The GUI indicating that updating is completed is displayed.

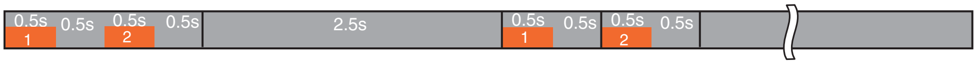
■ List of frequency of LED flashing (orange) when updating fails

If updating is interrupted, the orange LED flashes to warn you of the error.



Frequency of Orange LED Flashing	Error Content	Details
1	(Not used)	
2	Version error	The same version or a newer version of software has already been loaded.
3	USB update startup error	Startup of USB updating failed.
4	DTV update error	Updating of the DTV software failed.
5	Main download error	Updating of the MAIN microcomputer software failed.
6	ARIA download error	Updating of the ASIC software in the previous stage failed.
7	ZEUS download error	Updating of the ASIC software in the later stage failed.
8	Module download error	Updating of the module microcomputer software failed.
9	IF download error	Updating of the IF microcomputer software failed.
10	USB disconnection	Abnormality in the USB memory device
11 to 13	Reserved	-
14	Destination error	The software for a different destination (Europe/North America/Australia) was used for updating.

Example: In a case where the orange LED flashes twice (version error)
Repetition of 1-sec flashing twice followed by a 2.5-sec pause (OFF)



8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED

■ Explanation

To correct differences in IC output levels and signal levels upon AD conversion, adjustment is performed throughout the path. Therefore, if any of the following devices is replaced, the entire adjustment must be performed again.

IC8001	AV_SW	R2S11006FT
IC8101	RGB_SW	R2S11001FT
IC4702	VDEC	CM0048AF
IC4801	ADC	AD9985KSTZ-110

■ Adjustment Procedure

Perform the "AUTO ADJUSTMENT" on the "6.2 [4] INITIALIZE".

A

B

C

D

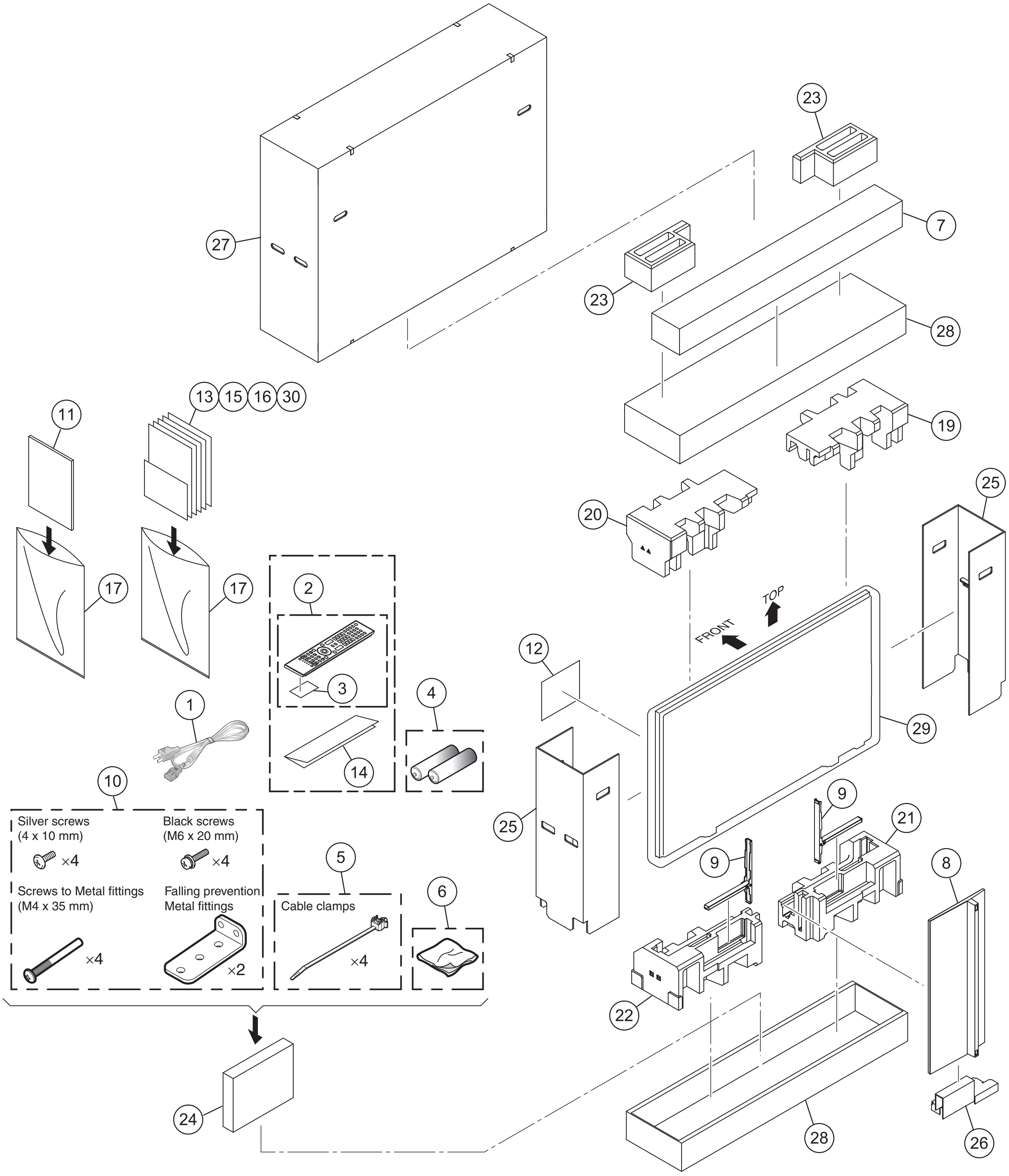
E

F

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

9.1 PACKING SECTION

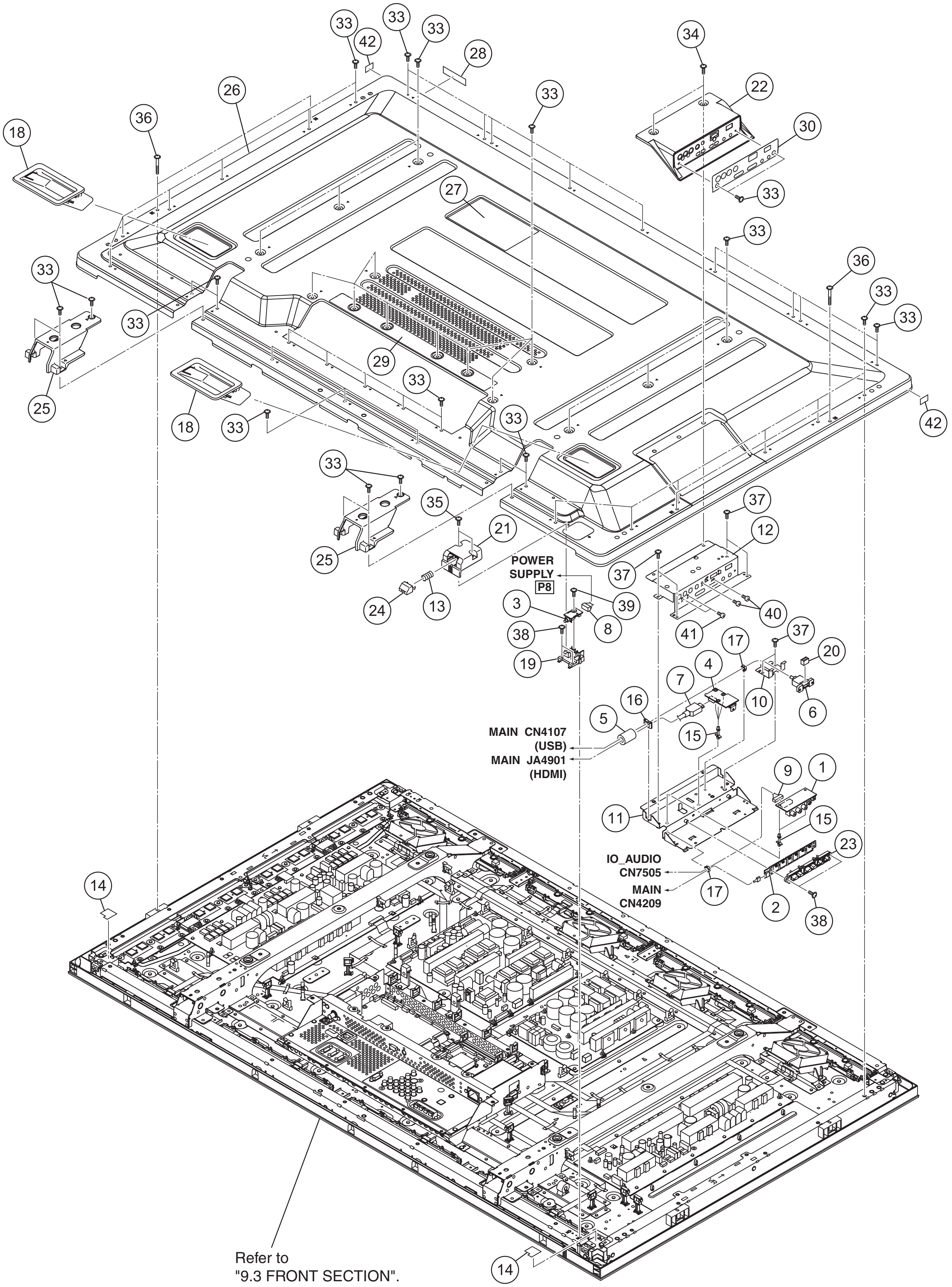


23
7
27
23
28
11
13 15 16 30
19
25
20
17
17
2
TOP
FRONT
12
3
4
1
29
14
10
9
21
Silver screws
(4 x 10 mm)
×4
Black screws
(M6 x 20 mm)
×4
25
9
5
8
Screws to Metal fittings
(M4 x 35 mm)
×4
Falling prevention
Metal fittings
×2
Cable clamps
×4
6
22
24
28
26

PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m/6.6 feet)	ADG1215
	2	Remote Control	AXD1561
	3	Battery Cover (Black)	AZN2783
NSP	4	Alkaline Dry Cell Battery (LR6, AA)	VEM1023
	5	Binder Assy	AEC2158
	6	Cleaning Cloth	AED1285
	7	Speaker System	SMW2024
	8	Base Cover	AXY1210
	9	Stand Pipe	AXY1211
	10	Stand Accessory Assy	AXY1212
	11	Operating Instructions (English / French / Spanish)	ARE1488
	12	Caution Card	ARM1239
	13	Cleaning Caution (U)	ARM1303
	14	Power Button Caution	ARM1390
NSP	15	Card (Register)	ARY1215
NSP	16	Warranty Card KUC	ARY1196
	17	Polyethylene Bag	AHG1394
	18	•••••	
	19	Pad (609 T-L)	AHA2703
	20	Pad (609 T-R)	AHA2704
	21	Pad (609 B-L)	AHA2705
	22	Pad (609 B-R)	AHA2706
	23	Option Pad (609U)	AHA2717
	24	Accessory Box	AHC1091
	25	Sub Carton LR (609U)	AHC1108
	26	Center Carton (609U)	AHC1119
	27	Upper Carton (609U)	AHD3654
	28	Under Carton (609U)	AHD3655
	29	Mirror Mat	AHG1385
	30	Digital TV Trans Inf	ARM1399

9.2 REAR SECTION


33
33
33
42
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34
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36
18
30
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27
33
36
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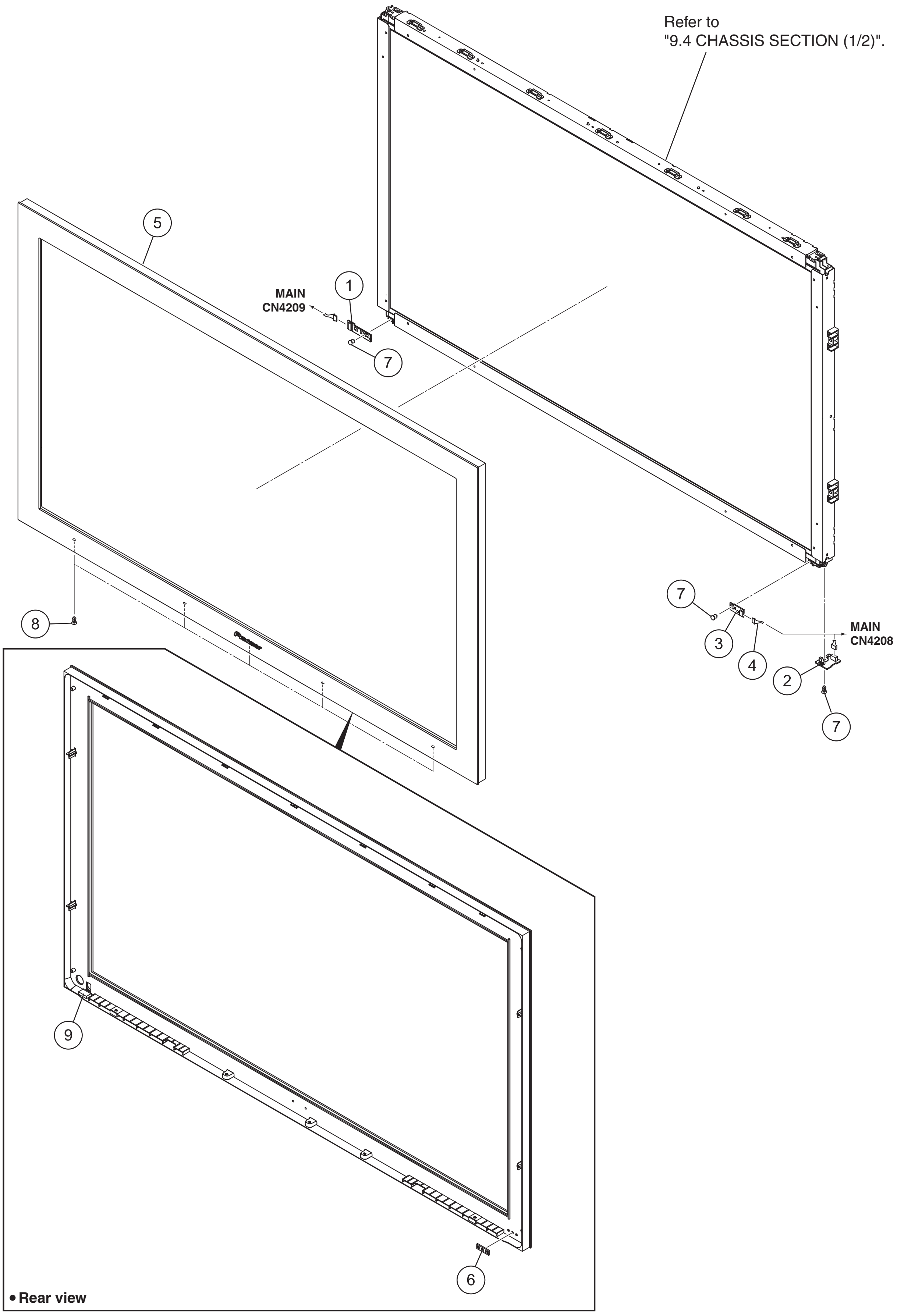
33
33
33
29
25
33
18
33
33
42
33
37
35
21
12
25
POWER
SUPPLY
P8
37
39
3
40
24
13
8
38
41
17
37
20
19
4
7
16
10
6
5
15
MAIN CN4107
(USB)
MAIN JA4901
(HDMI)
9
1
11
15
23
IO_AUDIO
CN7505
MAIN
CN4209
17
2
38
14
14

Refer to
"9.3 FRONT SECTION".

REAR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	SIDE IO Assy	AWW1356
	2	SIDE KEY Assy	AWW1361
	3	POWER SW Assy	AWW1366
	4	SIDE HDMI Assy	AWW1372
	5	Ferrite Core (F14)	ATX1039
	6	USB Cable (J301)(120 cm)	ADF1034
	7	HDMI Cable (J302)(1150 mm)	ADF1037
	8	3P Housing Wire (J103)	ADX3606
	9	11P Housing Wire (J118)	ADX3621
	10	USB Holder	ANG3134
	11	Side Input Base	ANG3135
	12	Side Input Shield	ANG3136
	13	Coil Spring	ABH1125
	14	Sensor Cushion B (428)	AEB1486
NSP	15	PCB Spacer	AEC1084
	16	Edge Saddle	AEC1571
	17	Mini Clamp	AEC1971
	18	Inner Grip Assy	AMR3693
	19	Power Button Support	AMR3763
⚠	20	USB Gasket	ANK1962
	21	Power Button Case	AAK2927
	22	Side Input Cover	AMR3754
	23	Operation Button	AAC1569
	24	Power Button (508F)	AAD4152
	25	Sub Frame Cover	AMR3752
	26	Rear Case Assy 60	ANE1686
	27	Name Label (609U)	AAL3022
NSP	28	Serial Seal	AAX3182
	29	Label A (U)	AAX3566
	30	Side Label (U)	AAK2929
	31	• • • • •	
	32	• • • • •	
	33	Screw (M3 x 6)	ABA1377
	34	Screw (M3 x 10)	ABA1378
	35	Screw (3 x 8 P)	ABA1379
	36	Screw (3 x 25 P)	ABA1380
	37	Screw	AMZ30P060FTB
	38	Screw	AMZ30P080FTB
	39	Screw	APZ30P080FTB
	40	Screw	BMZ30P080FTB
	41	Screw	BPZ30P080FTB
	42	Protect Sheet (609)	AED1339

9.3 FRONT SECTION

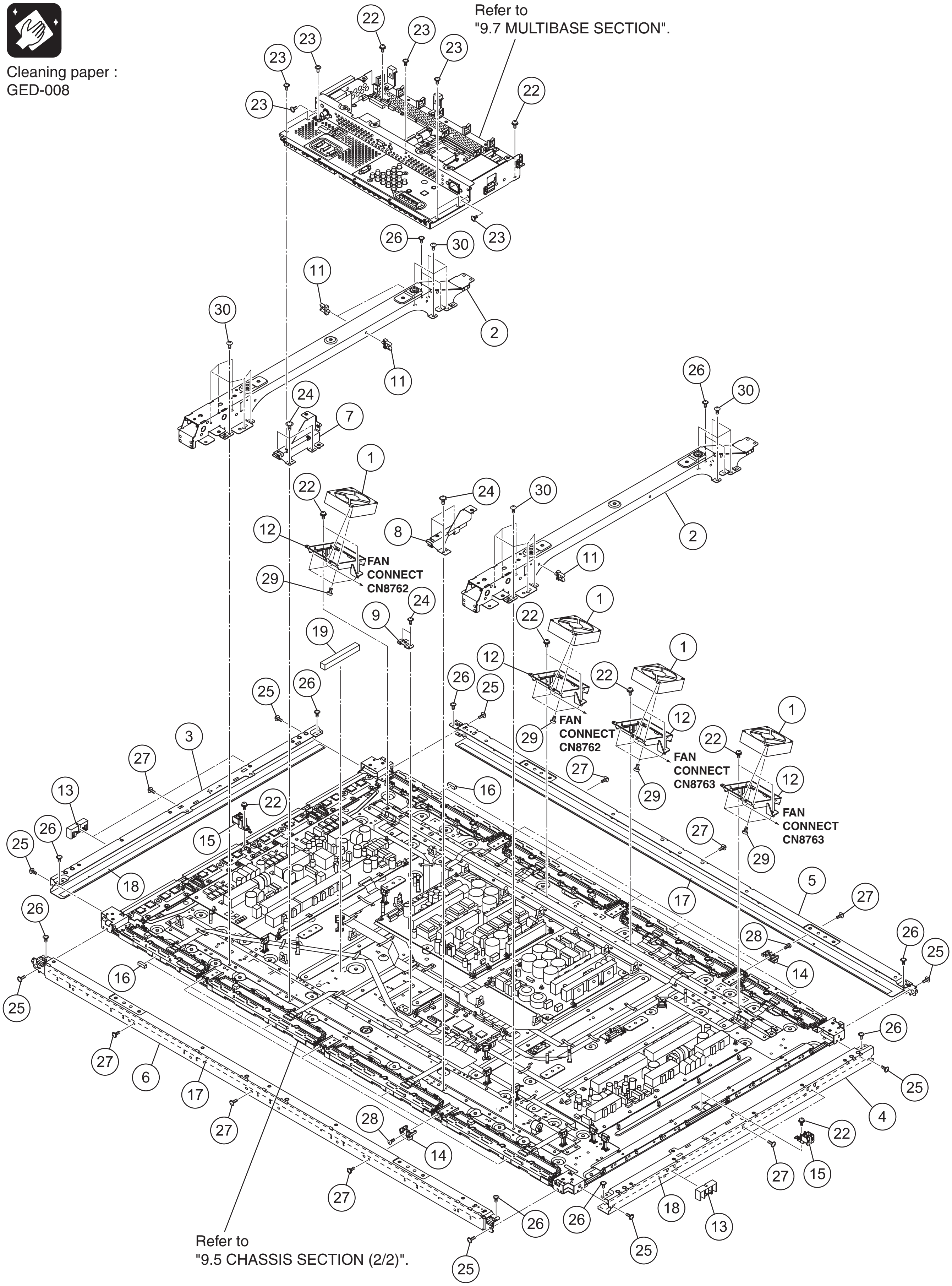

Refer to
"9.4 CHASSIS SECTION (1/2)".
5
1
MAIN
CN4209
7
7
3
4
MAIN
CN4208
2
7
8
9
6
● Rear view

FRONT SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	LED Assy	AWW1362
	2	IR Assy	AWW1363
	3	RLS Assy	AWW1365
	4	7/3/3P Housing Wire (J117)	ADX3620
	5	Front Bezel (609TVU)	AMB3067
	6	Blind Cushion (508F)	AEB1479
	7	Nylon Rivet	AEC1671
	8	Rivet (Plastic)	AEC1877
	9	Blind Cushion (609)	AEB1501

9.4 CHASSIS SECTION (1/2)

Cleaning paper :
GED-008


22
23
23
23
23
23
22
23
26
30
11
30
2
11
26
30
24
7
1
22
24
30
12
8
2
FAN
CONNECT
CN8762
11
29
24
9
1
19
22
1
12
26
25
22
25
26
FAN
CONNECT
CN8762
12
3
29
22
27
FAN
CONNECT
CN8763
27
16
29
12
13
22
FAN
CONNECT
CN8763
26
15
27
25
29
18
5
17
27
26
28
26
25
14
16
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26
27
6
25
17
4
27
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22
14
27
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27
26
26
18
13
25
25

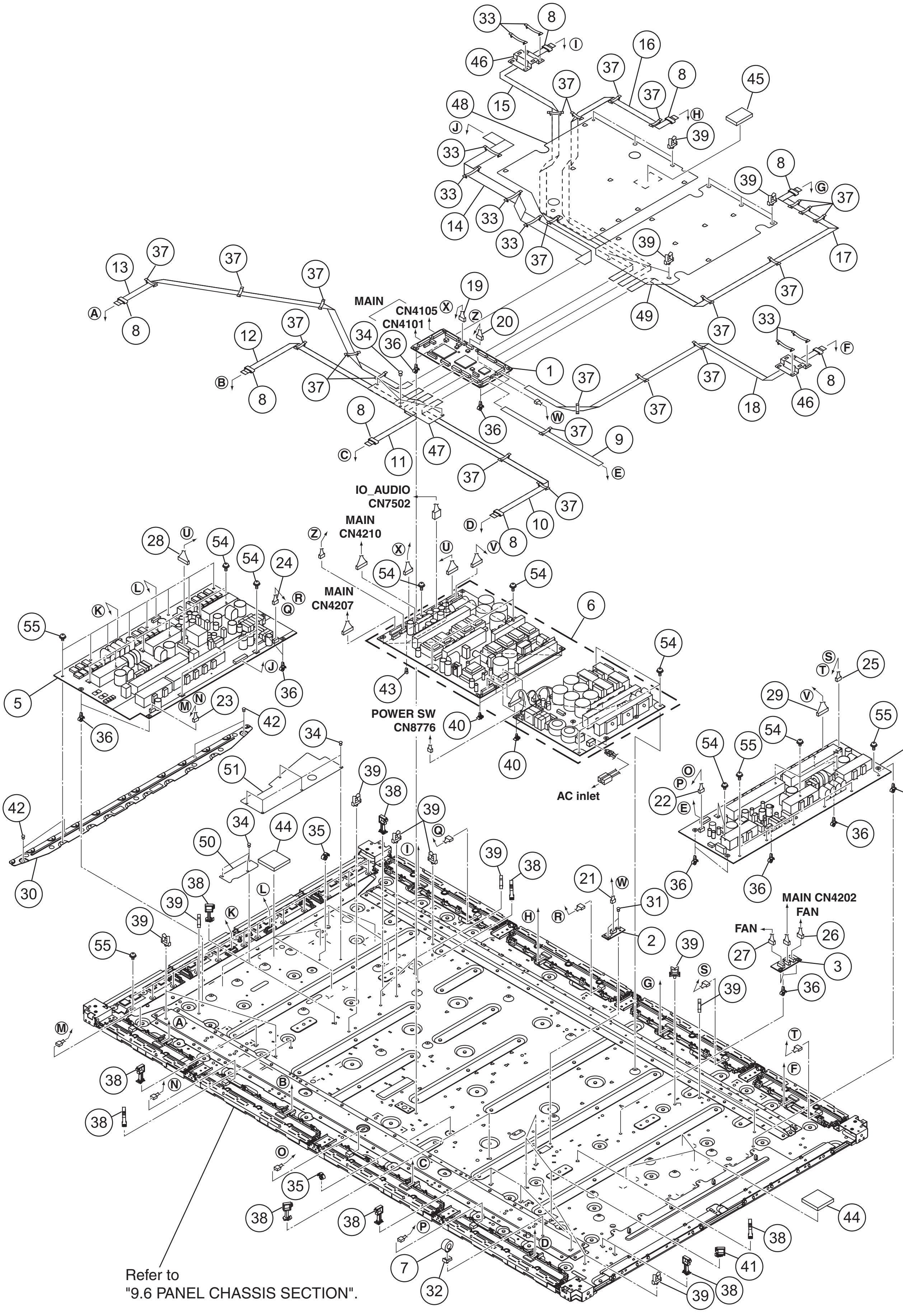
Refer to
"9.7 MULTIBASE SECTION".

Refer to
"9.5 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

Mark	No.	Description	Part No.
⚠	1	DC FAN Motor 80 x 25L	AXM1064
	2	Sub Frame Assy	ANA2127
⚠	3	F. Chassis VL Assy	ANA2184
⚠	4	F. Chassis VR Assy	ANA2128
⚠	5	F. Chassis HT Assy	ANA2132
⚠	6	F. Chassis HB Assy	ANA2133
	7	Multi Base Holder L	ANG3137
	8	Multi Base Holder R	ANG3138
	9	Multi Base Holder C	ANG3139
	10	• • • •	
	11	Reuse Wire Saddle	AEC2134
	12	FAN Bracket	AMR3753
	13	Front Bezel Support	AMR3755
	14	F. Chassis H Guide	AMR3756
	15	Support Bracket	AMR3762
⚠	16	Address Gasket	ANK1947
⚠	17	Front Gasket H	ANK1960
⚠	18	Front Gasket V	ANK1961
⚠	19	Gasket (10 x 10 x 80)	ANK1974
	20	• • • •	
	21	• • • •	
	22	Screw	ABA1313
	23	Screw (M3 x 6)	ABA1377
	24	Screw	ABZ30P060FTB
	25	Screw	ABZ30P080FTC
	26	Screw	AMZ30P060FTB
	27	Screw	APZ30P080FTB
	28	Screw	BMZ30P080FTB
	29	Screw	PPZ50P100FTB
	30	Screw	TBZ40P060FTC

9.5 CHASSIS SECTION (2/2)


MAIN
CN4105
CN4101
IO_AUDIO
CN7502
MAIN
CN4210
MAIN
CN4207
POWER SW
CN8776
AC inlet
MAIN CN4202
FAN
FAN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
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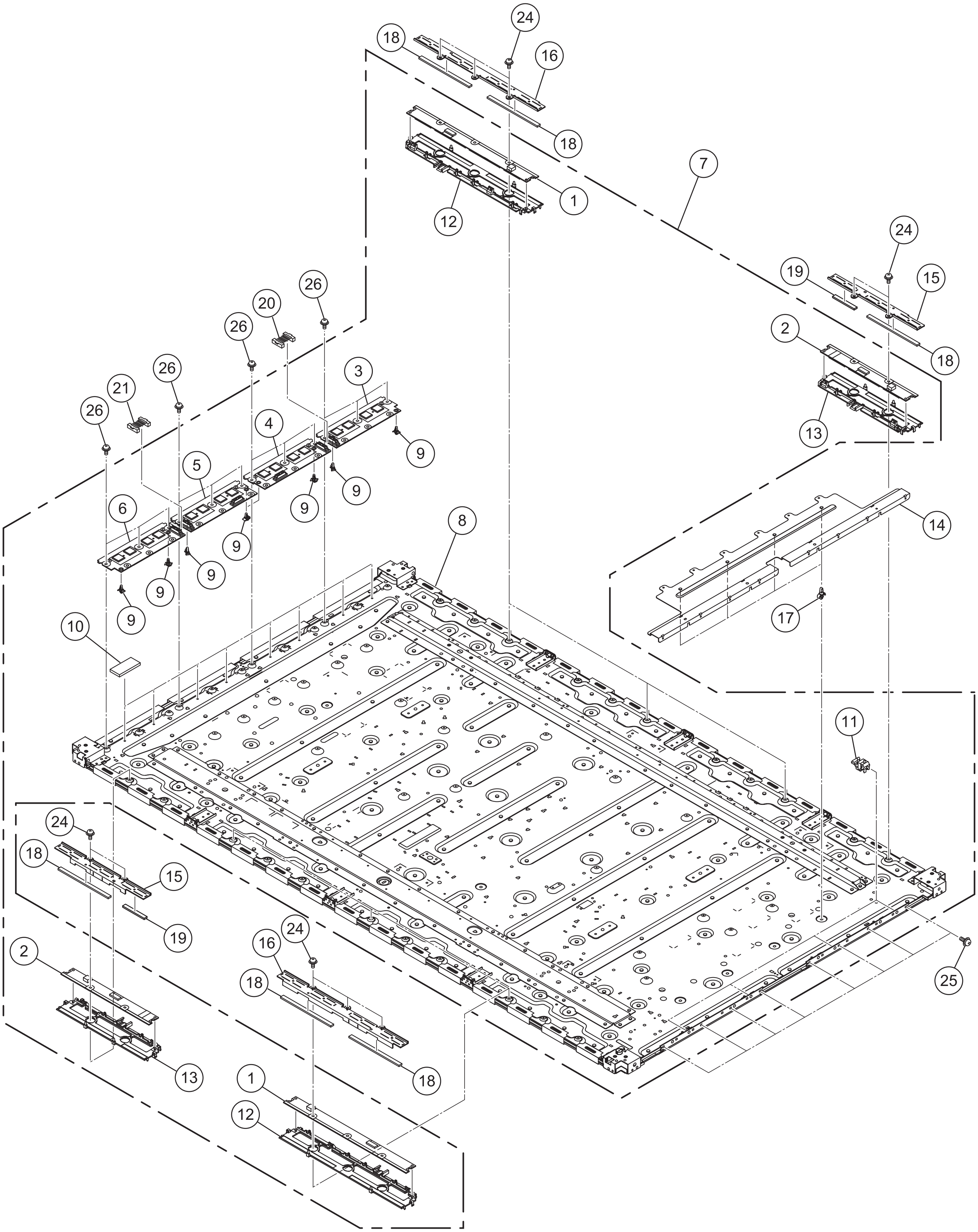
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Z

Refer to
"9.6 PANEL CHASSIS SECTION".

CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	60F DIGITAL Assy	AWW1339
	2	SENSOR Assy	AWW1340
	3	FAN CONNECT Assy	AWW1364
	4	60F X DRIVE Assy	AWV2540
	5	60F Y DRIVE Assy	AWV2541
⚠	6	POWER SUPPLY Unit	AXY1201
⚠	7	Ferrite Core (L1)	ATX1044
⚠	8	Ferrite Core (F1 - F8)	ATX1072
	9	Flexible Cable (J201)	ADD1523
	10	Flexible Cable (J202)	ADD1524
	11	Flexible Cable (J203)	ADD1525
	12	Flexible Cable (J204)	ADD1526
	13	Flexible Cable (J205)	ADD1527
	14	Flexible Cable (J206)	ADD1528
	15	Flexible Cable (J207)	ADD1529
	16	Flexible Cable (J208)	ADD1530
	17	Flexible Cable (J209)	ADD1531
	18	Flexible Cable (J210)	ADD1532
	19	10P Housing Wire (J106)	ADX3609
	20	6P Housing Wire (J107)	ADX3610
	21	5P Housing Wire (J108)	ADX3611
	22	5/3/3P Housing Wire (J112)	ADX3615
	23	5/3/3P Housing Wire (J113)	ADX3616
	24	5/3/3P Housing Wire (J114)	ADX3617
	25	5/3/3P Housing Wire (J115)	ADX3618
	26	6/3/3P Housing Wire (J120)	ADX3623
	27	7/3/3P Housing Wire (J121)	ADX3624
	28	12P/11P Housing Wire (J101)	ADX3672
	29	11P Housing Wire (J102)	ADX3673
	30	Plate Y	ANG3133
	31	Nylon Rivet	AEC1671
	32	Ferrite Core Holder	AEC1818
	33	Flat Clamp	AEC1879
	34	Nylon Rivet	AEC2089
	35	Reuse Card Spacer	AEC2117
	36	PCB Spacer (Reuse)	AEC2122
	37	Flat Clamp	AEC2132
	38	Reuse Fastener	AEC2133
	39	Reuse Wire Saddle	AEC2134
	40	Reuse PCB Spacer 6.0	AEC2135
	41	Reuse Locking Clamp	AEC2144
	42	Cap Spacer	AEC2145
	43	Mini PCB Spacer 5.0	AEC2149
	44	Drive Sheet	AEH1155
⚠	45	Power Assy Silicon	AEH1181
	46	FAN Sheet A	AMR3764
	47	Digital Sheet	AMR3765
⚠	48	Power Sheet A	AMR3766
⚠	49	Power Sheet B	AMR3767
	50	Y Drive Sheet B	AMR3769
	51	Y Drive Sheet A (M)	AMR3881
	52	• • • • •	
	53	• • • • •	
	54	Screw	ABA1313
	55	Screw	ABA1364

9.6 PANEL CHASSIS SECTION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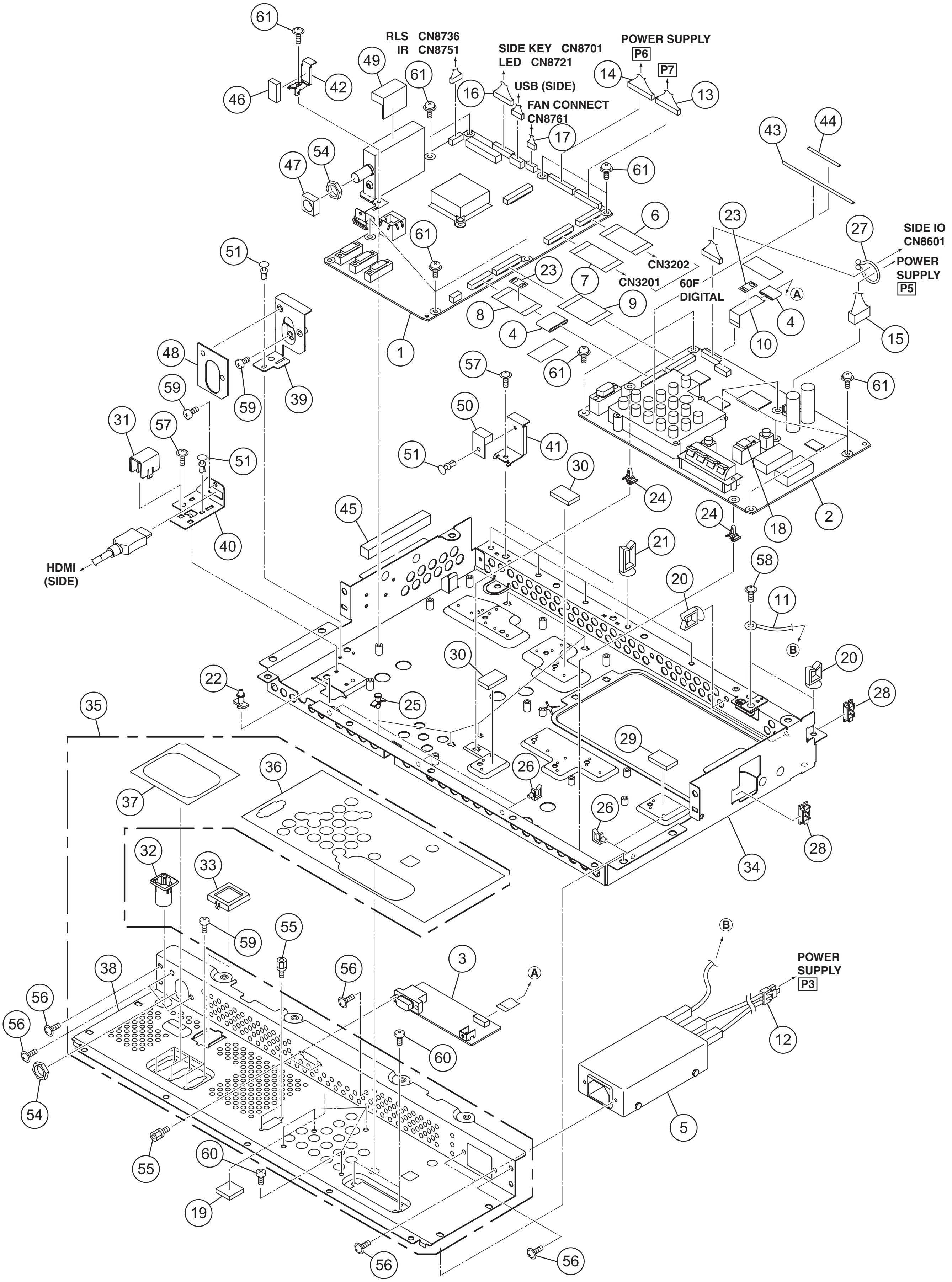
PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.
NSP	1	60F ADDRESS L Assy	AWW1341
NSP	2	60F ADDRESS S Assy	AWW1342
NSP	3	60F SCAN A Assy	AWW1343
NSP	4	60F SCAN B Assy	AWW1344
NSP	5	60F SCAN C Assy	AWW1345
NSP	6	60F SCAN D Assy	AWW1346
NSP	7	P. Chassis (609F) Assy	AWU1287
NSP	8	P. Panel (60F) Assy	AWU1289
	9	Reuse PCB Spacer 4.5B	AEC2161
	10	Scan Sheet	AEH1154
	11	Plate Holder	AMR3757
	12	Address Holder Assy L	AMR3758
	13	Address Holder Assy S	AMR3759
	14	Plate X	ANG3132
⚠	15	Address Heatsink S	ANH1704
⚠	16	Address Heatsink L	ANH1705
	17	PCB Spacer (Reuse)	AEC2122
	18	Address Silicon A (508)	AEH1146
	19	Address Silicon C	AEH1156
	20	3 Piece Connector 15P (CN101)	AKM1393
	21	3 Piece Connector 15P (CN102)	AKM1393
	22	• • • • •	
	23	• • • • •	
	24	Screw	ABA1351
	25	Screw (M3 x 6) SN	ABA1366
	26	Screw	ABA1313

9.7 MULTIBASE SECTION


61
RLS CN8736
IR CN8751
SIDE KEY CN8701
LED CN8721
POWER SUPPLY
P6
P7
USB (SIDE)
FAN CONNECT
CN8761
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61
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23
27
SIDE IO
CN8601
POWER
SUPPLY
P5
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61
CN3202
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CN3201
60F
DIGITAL
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HDMI
(SIDE)
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B
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33
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B
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3
A
POWER
SUPPLY
P3
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60
19
56
56

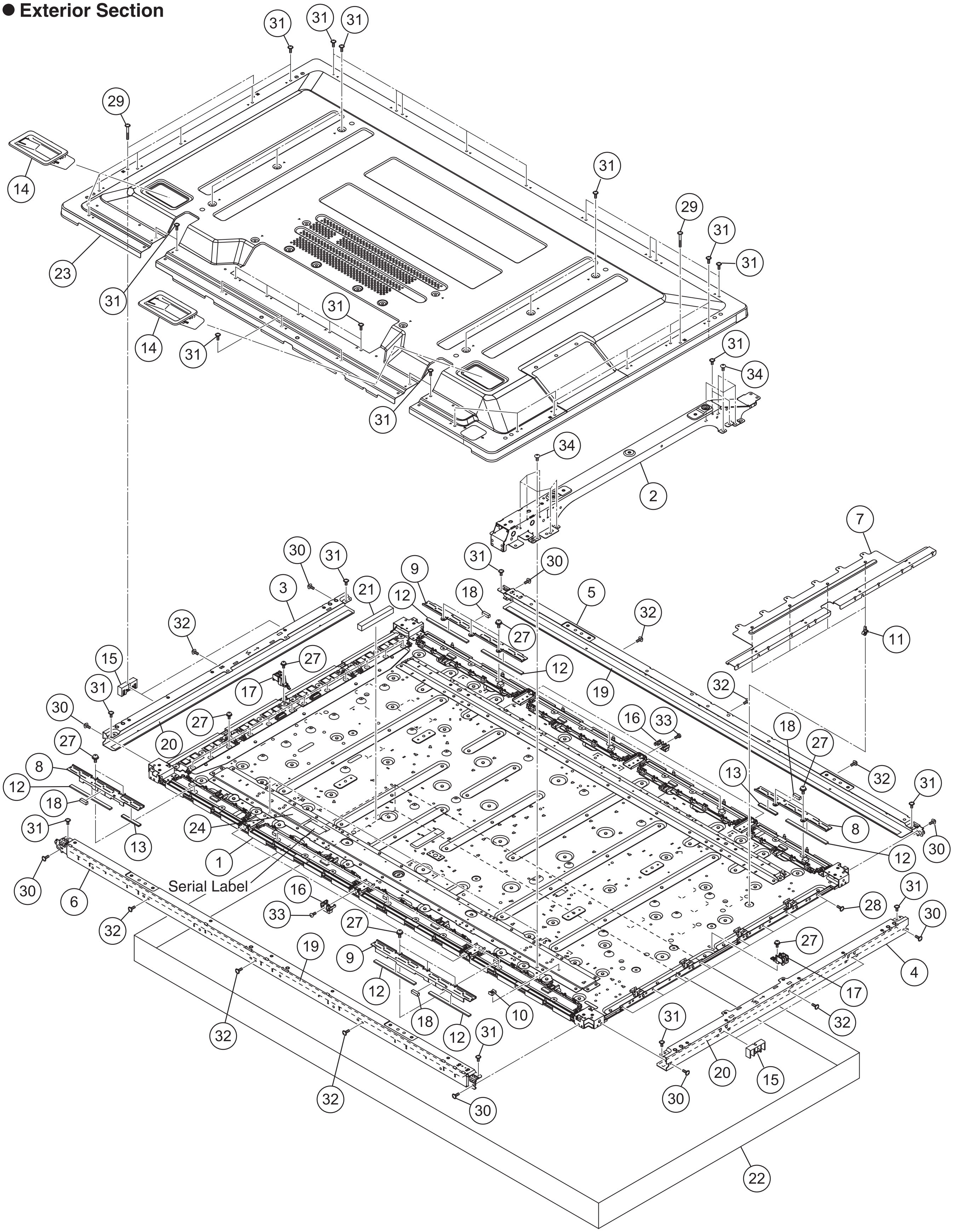
MULTIBASE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWW1371
	2	IO_AUDIO Assy	AWW1352
	3	PC Assy	AWW1359
⚠	4	Ferrite Core (F11, F12)	ATX1048
⚠	5	AC Inlet (CN1)	AKP1336
	6	Flexible Cable (J211)	ADD1533
	7	Flexible Cable (J212)	ADD1534
	8	Flexible Cable (J213)	ADD1535
	9	Flexible Cable (J214)	ADD1536
	10	Flexible Cable (J215)	ADD1537
⚠	11	Housing Wire (J105)	ADX3608
⚠	12	Housing Wire (J104)	ADX3607
	13	14P Housing Wire (J109)	ADX3612
	14	15P Housing Wire (J110)	ADX3613
	15	5P Housing Wire (J111)	ADX3614
	16	10/6/4P Housing Wire (J116)	ADX3619
	17	4P Housing Wire (J119)	ADX3622
	18	Rubber Sheet	AEB1498
	19	Cushion	AEB1499
	20	Wire Saddle	AEC1745
	21	Wire Saddle	AEC1797
	22	Circuit Board Spacer	AEC1872
	23	Ferrite Stopper	AEC1981
	24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161
	25	PCB Spacer	AEC2146
	26	HDMI Clamp	AEC2147
	27	Clamp	AEC2156
	28	Edge Holder	AEC2159
	29	Silicon Sheet MTB A	AEH1174
	30	Silicon Sheet MTB B	AEH1175
	31	Cable Holder	AMR3770
	32	Sleeve	AMR3771
	33	Ether Cover	AMR3789
	34	MTB Assy	ANA2150
	35	1..T Panel U Assy	ANC2468
	36	2..Label B1 (U)	AAX3571
	37	2..Label B2 (U)	AAX3582
	38	2..Terminal Panel (U)	ANC2463
	39	Tuner Panel (U)	ANG3146
	40	HDMI Holder	ANG3147
	41	Earth BKT A	ANG3182
	42	Earth BKT C	ANG3184
	43	Gasket T	ANK1965
	44	Gasket 3 x 40	ANK1971
⚠	45	Gasket (10 x 10 x 80)	ANK1974
	46	Gasket (10 x 5 x 20)	ANK1976
⚠	47	Gasket (U)	ANK1977
	48	Gasket A	ANK1979
⚠	49	Gasket B	ANK1980
⚠	50	Gasket (10 x 8 x 15)	ANK1982
	51	Nylon Rivet	AEC1671
	52	• • • • •	
	53	• • • • •	
	54	Washer Faced Nut	BBN1005
	55	Hexagon Headed Screw	ABA1382
	56	Screw (M3 x 6)	ABA1377
	57	Screw	AMZ30P060FTB
	58	Screw	BMP40P080FSN
	59	Screw	BMZ30P060FTB
	60	Screw	BPZ30P080FTB
	61	Screw	PMB30P060FNI

9.8 PDP SERVICE ASSY

PDP SERVICE ASSY 609F : AWU1346

● **Exterior Section**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Serial Label
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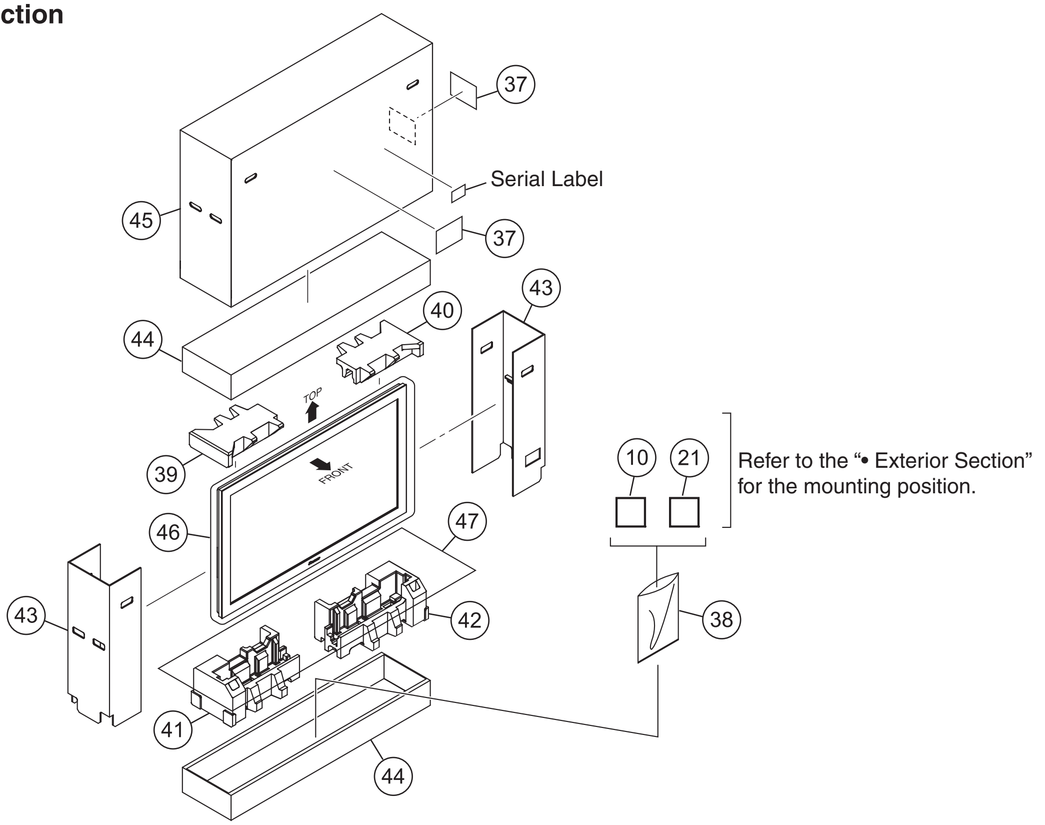
● Packing Section



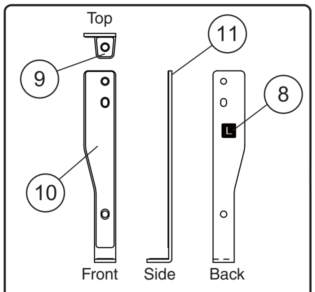
Refer to the "• Exterior Section" for the mounting position.

PDP SERVICE ASSY PARTS LIST

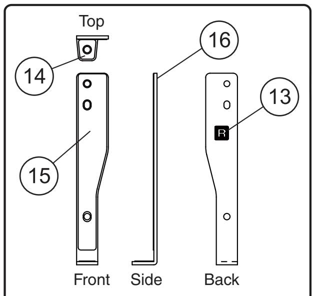
Mark	No.	Description	Part No.
NSP	1	P. Chassis (609F) Assy	AWU1287
	2	Sub Frame Assy	ANA2127
⚠	3	F. Chassis VL Assy	ANA2184
⚠	4	F. Chassis VR Assy	ANA2128
⚠	5	F. Chassis HT Assy	ANA2132
⚠	6	F. Chassis HB Assy	ANA2133
	7	Plate X	ANG3132
⚠	8	Address Heatsink S	ANH1704
⚠	9	Address Heatsink L	ANH1705
	10	Ferrite Core Holder	AEC1818
	11	PCB Spacer (Reuse)	AEC2122
	12	Address Silicon A (508)	AEH1146
	13	Address Silicon C	AEH1156
	14	Inner Grip Assy	AMR3434
	15	Front Bezel Support	AMR3755
	16	F. Chassis H Guide	AMR3756
	17	Support Bracket	AMR3762
⚠	18	Address Gasket	ANK1947
⚠	19	Front Gasket H	ANK1960
⚠	20	Front Gasket V	ANK1961
⚠	21	Gasket (10 x 10 x 80)	ANK1974
NSP	22	Front Bezel (609SERV)	AMB3106
	23	Rear Case Assy 60	ANE1686
NSP	24	Drive Voltage Label	ARW1097
	25	• • • • •	
	26	• • • • •	
	27	Screw	ABA1351
	28	Screw (M3 x 6) SN	ABA1366
	29	Screw (3 x 25 P)	ABA1380
	30	Screw	ABZ30P080FTC
	31	Screw	AMZ30P060FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	TBZ40P060FTC
	35	• • • • •	
	36	• • • • •	
	37	Caution Label	AAX3031
	38	Vinyl Bag S	AHG1338
	39	Pad (609 T-L)	AHA2722
	40	Pad (609 T-R)	AHA2723
	41	Pad (609 B-L)	AHA2724
	42	Pad (609 B-R)	AHA2725
	43	Sub Carton LR (609E)	AHC1110
	44	Under Carton (609E)	AHD3666
	45	Upper Carton (609SERV)	AHD3724
	46	Protect Sheet	AHG1401
	47	Mirror Mat	AHG1402

9.9 SPEAKER SYSTEM (PACKING)

SPEAKER SYSTEM : SMW2024


Top
9
11
8
L
10
Front
Side
Back

No.7 Speaker Bracket (L)


Top
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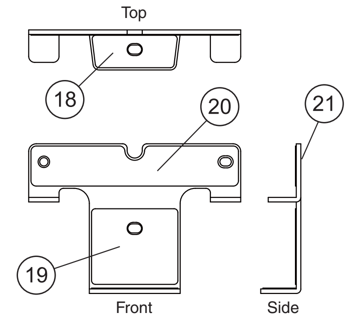
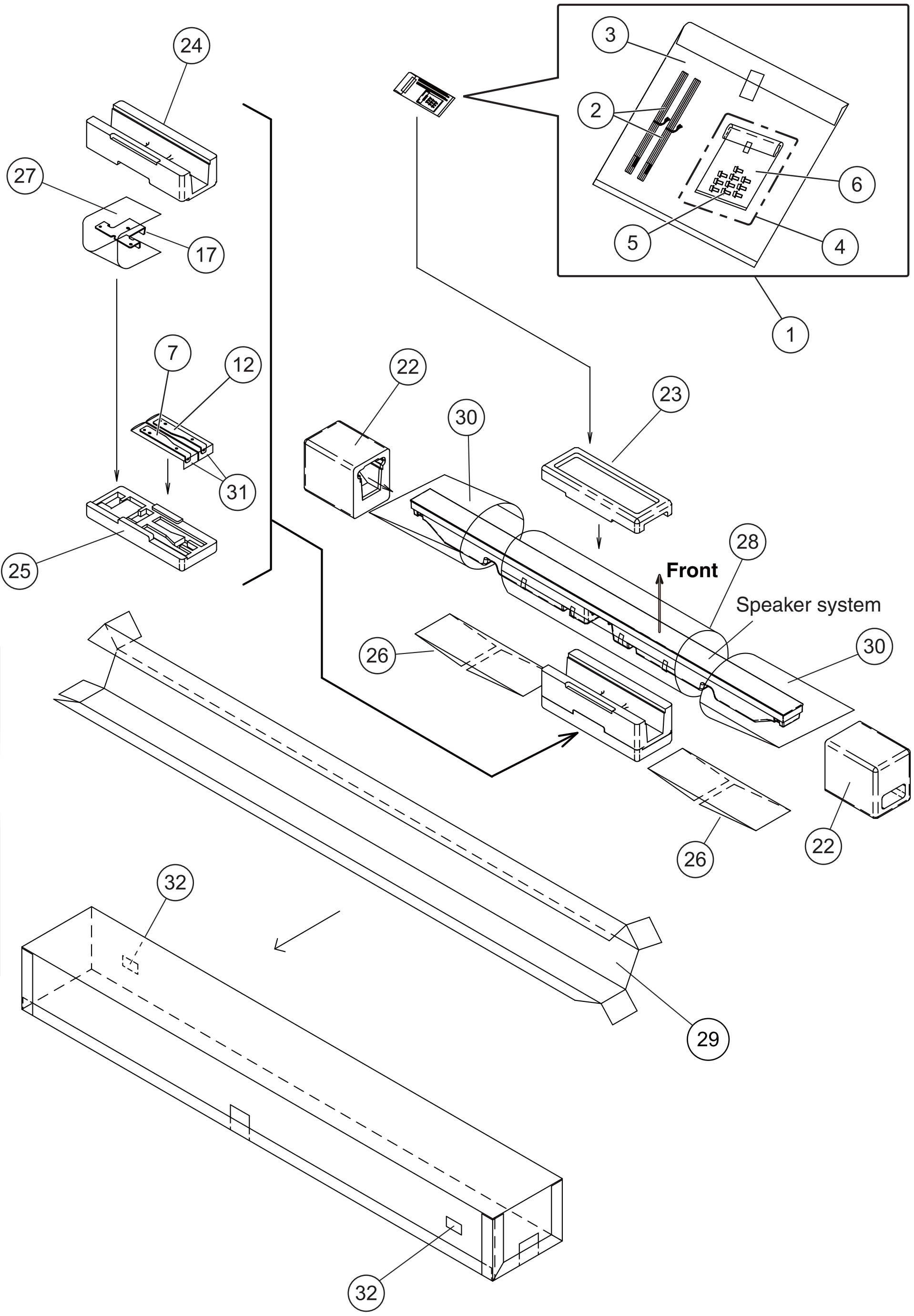
13
R
15
Front
Side
Back

No.12 Speaker Bracket (R)


Top
18
20
21
19
Front
Side

No.17 Speaker Bracket (Center)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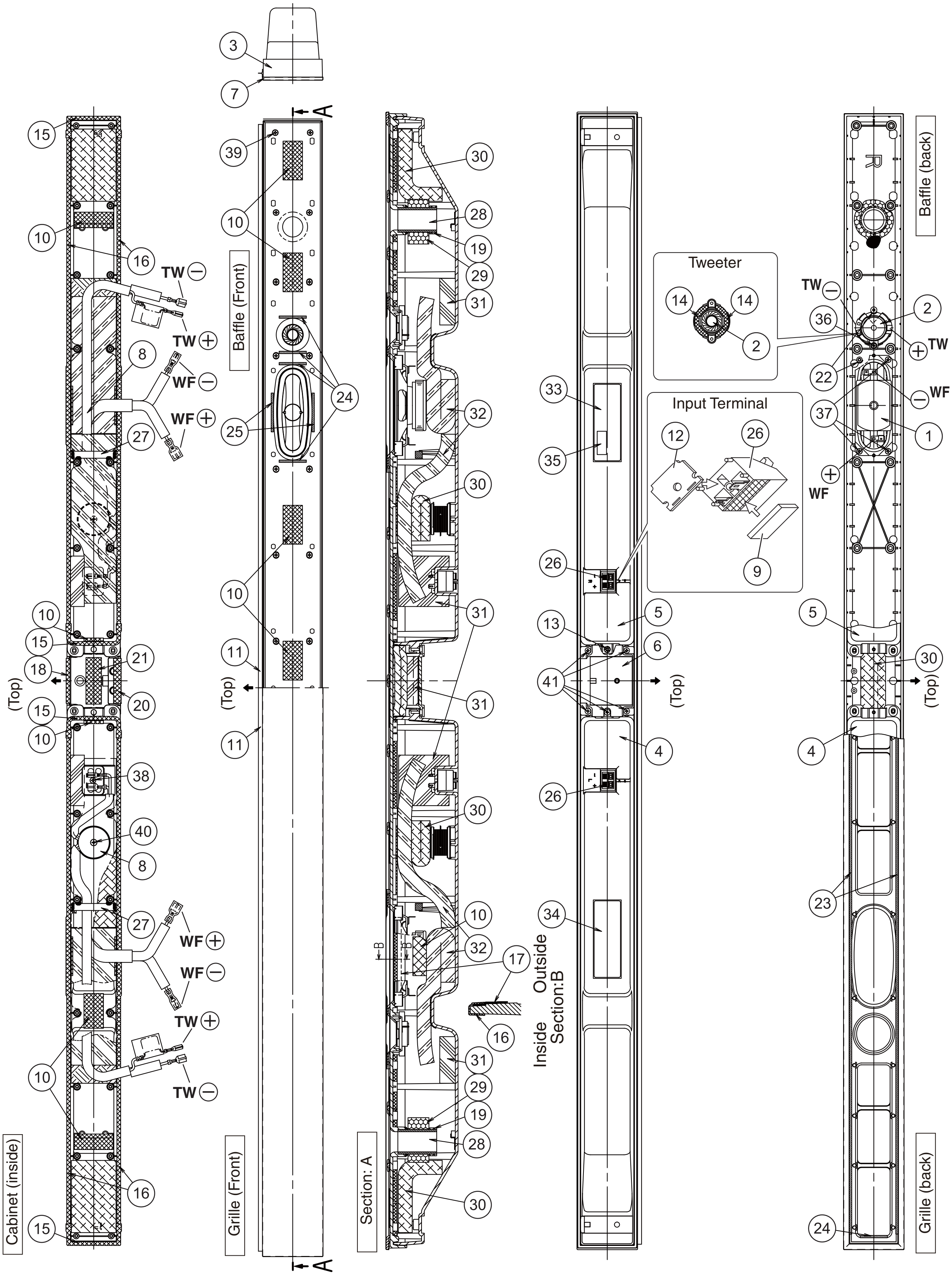
23
28
Front
Speaker system
30
26
26
22
32
29
32

SPEAKER SYSTEM (PACKING) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	1..Accessory Set	SME3854
	2	2..Speaker Cable	SDS1202
	3	2..Polyethylene Bag S1	SHL1439
NSP	4	2..Screw Set	SME3853
	5	3..Speaker Mounting Screw	SBA1292
	6	3..Polyethylene Bag S0	SHL1438
	7	1..Spaeker Bracket (L)	SXG1173
NSP	8	2..Label (L)	SAK1024
	9	2..Gasket	SED1191
	10	2..Gasket	SED1192
NSP	11	2..Bracket L	SNA1503
	12	1..Speaker Bracket (R)	SXG1174
NSP	13	2..Label (R)	SAK1025
	14	2..Gasket	SED1191
	15	2..Gasket	SED1193
NSP	16	2..Bracket R	SNA1504
	17	1..Speaker Bracket (Center)	SXG1175
	18	2..Gasket	SED1194
	19	2..Gasket	SED1195
	20	2..Gasket	SED1196
NSP	21	2..Bracket C	SNA1505
	22	Protector (SIDE)	SHA2608
	23	Protector (C-T)	SHA2609
	24	Protector (C-M)	SHA2610
	25	Protector (C-B)	SHA2611
NSP	26	Inner Carton Board	SHB1193
	27	Protection Sheet S1	SHC1869
	28	Protection Sheet S3	SHC1876
	29	Packing Case	SHG2817
	30	Packing Bag S2	SHL1450
	31	Polyethylene Bag S0	SHL1451
NSP	32	Label Serial	SRW1112

9.10 SPEAKER SYSTEM


Cabinet (inside)
Grille (Front)
Baffle (Front)
Section: A
Inside Outside Section:B
Baffle (back)
Grille (back)
Tweeter
Input Terminal
(Top)
TW⊖
TW⊕
WF⊖
WF⊕
A
B
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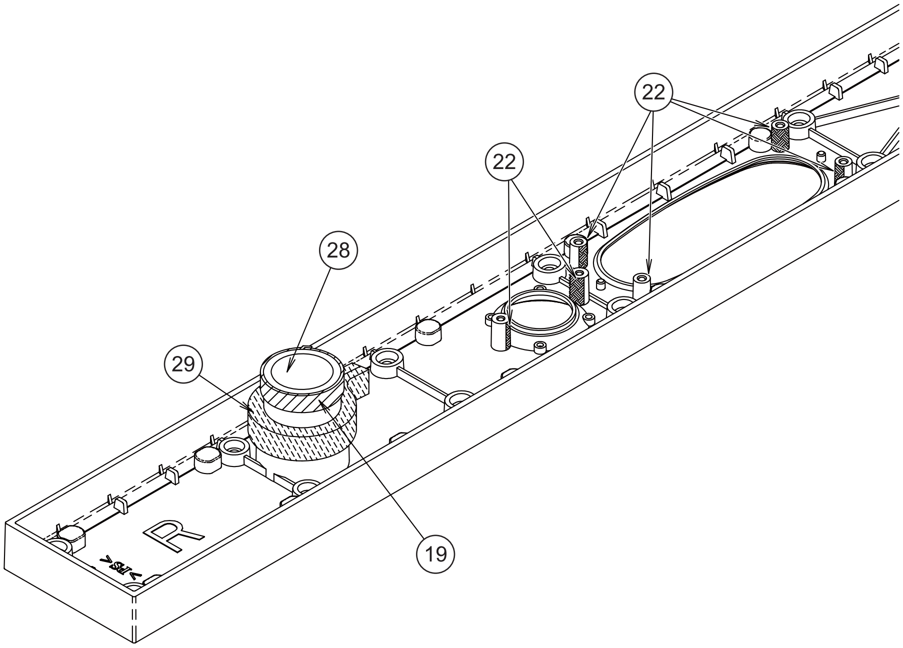
BAFFLE



CS ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Speaker	H132DC65-53D
	2	Speaker	FK26AP32-58H
NSP	3	Baffle	SNK3033
NSP	4	Cabinet Assy L	SXG1171
NSP	5	Cabinet Assy R	SXG1172
NSP	6	Cabinet Assy C	SXG1170
	7	Grille	SMG1897
	8	1..Network Assy	SWN1793
		2..Capacitor 1.5	SCE1034
		2..Choke Coil 0.47	STH1271
NSP	9	Gasket	SEB1299
NSP	10	Gasket	SEB1300
NSP	11	Blinder	SEB1328
NSP	12	Gasket	SEC2074
	13	Gasket	SEC2076
	14	Gasket	SEC2083
NSP	15	Gasket	SEC2201
NSP	16	Gasket	SEC2202
NSP	17	Gasket	SEC2203
NSP	18	Gasket	SEC2208
NSP	19	Gasket	SEC2229
NSP	20	Gasket	SEC2236
NSP	21	Felt	SED1127
NSP	22	Felt	SED1130
	23	Tape	SEH1091
	24	Tape	SEH1099
	25	Tape	SEH1115
	26	Input Terminal	SKX1098
NSP	27	MDF Bar	SLX1176
NSP	28	Paper Tube 26	SMR1403
NSP	29	Acoustic Absorbent	SMT1331
NSP	30	Acoustic Absorbent	SMT1333
NSP	31	Acoustic Absorbent	SMT1335
NSP	32	Acoustic Absorbent	SMT1359
NSP	33	Model Label	SAN4026
NSP	34	Caution Label	SRR1032
NSP	35	Label Serial	SRW1111
	36	Screw	BPZ30P080FTC
	37	Screw	BPZ35P080FTC
	38	Screw	BPZ35P120FTC
	39	Screw	BPZ35P140FTB
	40	Screw	BPZ40P350FTC
	41	Screw	SBA1291